

**State of California
Air Resources Board**

**Staff Report: Initial Statement of Reasons
for Proposed Rulemaking**

**Proposed Amendments to the
Antiperspirants and Deodorants Regulation,
the Consumer Products Regulation,
the Aerosol Coating Products Regulation,
the Tables of MIR Values, Test Method 310, and
Proposed Repeal of the Hairspray Credit Program**



Date of Release: August 7, 2013

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Initial Statement of Reasons

Public Hearing to Consider Proposed Amendments to the Antiperspirants and Deodorants Regulation; Consumer Products Regulation; Aerosol Coating Products Regulation; the Tables of Maximum Incremental Reactivity Values; Test Method 310; and Proposed Repeal of the Hairspray Credit Program

Air Resources Board Meeting
September 26, 2013, at 9:00 a.m.
California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

For those unable to attend the meeting in person, live video webcast will be available beginning at 9:00 a.m. on September 26, 2013, at <http://www.calepa.ca.gov/broadcast>

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List of Acronyms

2010 Survey	2010 Consumer & Commercial Products Survey Update for Aerosol Coating and Adhesive Products
AB	Assembly Bill
ACP	Alternative Control Plan
APA	Administrative Procedure Act
ARB	[California] Air Resources Board
ASTM	American Society for Testing and Materials International
Board	California Air Resources Board
CA	California
CAA	[Federal] Clean Air Act
CCAA or Act	California Clean Air Act
CCR	California Code of Regulations
CE	Cost Effectiveness
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO ₂	Carbon Dioxide
CRF	Capital Recovery Factor
GHG	Greenhouse Gas
g/L	Grams per Liter
g O ₃ /g Product	Grams of Ozone per gram of product
GWP	Global Warming Potential
HCS	Hydrocarbon solvents
HERC	Hairspray Emission Reduction Credits
HFC	Hydrofluorocarbon
HFC-134a	hydrofluorocarbon-134a
HFC-152a	hydrofluorocarbon-152a
HFO-1234ze	Trans 1,3,3,3-Tetrafluoropropene
IPE	Innovative Product Exemption
ISOR	Initial Statement of Reasons
lb/Gal	Pounds Per Gallon
LVP-VOC	Low Vapor Pressure Volatile Organic Compound
MIR	Maximum Incremental Reactivity
MMT-CO ₂ e	Million Metric Ton Carbon Dioxide Equivalent
NA	Not applicable
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
OEHHA	Office of Environmental Health Hazard Assessment
OFP	Ozone Forming Potential
PCBTF	Parachlorobenzotrifluoride

ppm	Parts Per Million
PWMIR	Product-weighted Maximum Incremental Reactivity
REL	Reference Exposure Level
ROC	Reactive Organic Compound
ROE	Return on Owner's Equity
Rule 1143	SCAQMD "Consumer Paint Thinners and Multi-Purpose Solvents"
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SOP	Standard Operating Procedure
SWA-PWMIR	Sales Weighted Average Product-weighted Maximum Incremental Reactivity
TAC	Toxic Air Contaminant
Method 310	Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products
VOC	Volatile Organic Compound
U.S. EPA	United States Environmental Protection Agency

Executive Summary

In this rulemaking, California Air Resources Board (ARB or Board) staff is proposing amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of Maximum Incremental Reactivity (MIR) Values, and Method 310. Staff is also proposing to repeal the Hairspray Credit Program as its usefulness has expired. The primary purpose of the proposed amendments is to lower the impacts that volatile organic compound (VOC) emissions from use of consumer products and aerosol coatings have on formation of ground-level ozone. When fully implemented, VOC emissions would be reduced by about 4 tons per day statewide. Of this amount, about 1.8 tons per day reduction would occur in the South Coast Air Quality Management District (SCAQMD).

Staff is proposing to set new or lower VOC limits for aerosol adhesives and for aerosol “Multi-purpose Solvent” and “Paint Thinner” products. In these same categories staff is proposing to prohibit the use of several chlorinated toxic air contaminants (TAC) (except for “Mist Spray Adhesive” and “Web Spray Adhesive” categories where use is already prohibited) and preclude use of compounds with high global warming potentials (GWP). We are also proposing to set lower Reactivity Limits for aerosol coatings.

Staff is proposing other amendments to provide clarity to a number of definitions, provide reformulation flexibility by exempting a compound from the VOC definition, extend a compliance date for a VOC standard to address commercial and technological feasibility, strengthen the enforcement process, and repeal provisions that have expired. The purpose of other proposals is to stem the circumvention of provisions for “Multi-purpose Solvent” and “Paint Thinner” products, particularly for products sold in the SCAQMD. The purpose for proposing amendments to Method 310 is to establish procedures to test various products for compliance.

The sections proposed for amendment are codified in title 17, California Code of Regulations, (CCR) sections 94500-94506.5, 94507-94517, 94520-94528, 94560-94575, and 94700-94701.

This Executive Summary, together with the Staff Report, is the Initial Statement of Reasons for Proposed Rulemaking required by the California Administrative Procedure Act. Appendices A through F contain the regulations, Tables of MIR Values, and Method 310. The proposed changes are shown in underline and ~~strikeout~~ format.

A. Authority to Regulate Consumer Products

Consumer products are defined as chemically formulated products used by household and institutional consumers. Examples include antiperspirants and deodorants, detergents, cleaning products, floor finishes, personal care products, lawn and garden products, adhesives, air fresheners, disinfectants, automotive maintenance products, paint thinners, insecticides, and aerosol coatings.

The Health and Safety Code sets forth ARB's authority to regulate consumer products to control VOC emissions and greenhouse gas (GHG) emissions. Section 41712 specifies requirements to reduce VOC emissions primarily as a ground-level ozone control strategy. Section 38500 *et seq.*, establishes authority to reduce emissions of GHGs from consumer products as part of ARB's climate change mitigation strategy. Authority to mitigate potential adverse impacts of proposed regulations is set forth in Public Resources Code section 21000 *et seq.*

B. Existing Regulations

This section provides a general overview of the regulations adopted to fulfill the legislative mandates. Also germane to this rulemaking is discussion of a SCAQMD rule pertaining to "Paint Thinner" and "Multi-Purpose Solvent" products.

1. ARB's Regulations

For more than twenty years, the Board has taken actions pertaining to the regulation of consumer products. Three regulations have set VOC limits for 129 consumer product categories. These three regulations, when fully effective, will reduce VOC emissions by about 50 percent compared to 1990 levels. By 2020, limits on the use of ingredients with higher GWP values will provide reductions of approximately 0.23 million metric tons of carbon dioxide equivalents (MMT CO₂e) per year.

Exposure to TACs has also been reduced by prohibiting use of certain chlorinated compounds in 83 categories. Total emissions of TACs have been reduced by over 13 tons per day.

In addition, two voluntary program regulations, the Alternative Control Plan (ACP) and the Hairspray Credit Program have been adopted to provide compliance flexibility to companies. The five consumer product regulations are codified in title 17, CCR sections 94500 to 94575.

Tables of MIR Values have also been adopted to implement the Aerosol Coating Products Regulation. These values are codified in title 17, CCR, sections 94700 and 94701.

2. South Coast Air Quality Management District Rule 1143

SCAQMD adopted Rule 1143, “Consumer Paint Thinners and Multi-purpose Solvents” (Rule 1143) on March 6, 2009. As allowed by State law, this rule established requirements specific to consumer “Paint Thinners” and “Multi-Purpose Solvents” sold, supplied, offered for sale, or manufactured for use in the SCAQMD. This rule established a 300 grams per liter (g/L) limit effective January 1, 2010, and a 25 g/L limit effective January 1, 2011. The categories were defined similarly to those in the Consumer Products Regulation.

C. Basis for the Proposed Amendments

The overarching problem is that the majority of California residents continue to be exposed to pollutant concentrations that exceed health based standards for ozone and particulate matter. Because VOCs are precursors to the formation of ground-level ozone and secondary particulate matter, VOC emission reductions are necessary to attain the ambient air quality standards.

Despite developing regulations to reduce consumer products’ VOC emissions by over 209 tons per day, it is estimated that current VOC emissions are approximately 205 tons per day. This represents about 13 percent of the overall statewide VOC inventory. Moreover, without further action, consumer product VOC emissions are expected to grow, as California’s population grows, to approximately 213 tons per day statewide in 2020. Thus, more needs to be done.

In addition to the need for further VOC reductions, the regulation of “Paint Thinner” and “Multi-purpose Solvent” products has not resulted in the full benefits expected, especially for those products sold in the SCAQMD. Unclear definitions and exemption criteria have led to noncompliance with the regulatory intent and expected emission reductions have not been fully achieved. These problems need to be addressed.

As a basis for developing the proposed amendments, staff conducted several surveys and assessments as shown below:

- 2010 Consumer & Commercial Products Survey Update for Aerosol Coating and Adhesive Products;
- Technical Assessment for “Multi-purpose Solvent” and “Paint Thinner” products; and
- Technical Assessment for “Multi-purpose Lubricants”

D. Proposed Amendments

This section summarizes the proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of MIR Values, and Method 310. The proposed

repeal of the Hairspray Credit Program is also explained. A more detailed description of each proposed amendment along with its rationale is presented in Chapter VIII of the Staff Report.

1. Proposal for Antiperspirants and Deodorants

Staff is proposing amendments to the section 94501 and 94506 of the Antiperspirants and Deodorants Regulation, which is codified in title 17, CCR, sections 94500-94506.5.

Staff is proposing to amend the VOC definition to provide an exemption for a new propellant, trans-1,3,3,3-tetrafluoropropene (HFO-1234ze). The Consumer Products Regulation would also be modified to exclude HFO-1234ze from the VOC definition in that regulation (see section 2.a below). Staff is also proposing to change the date Method 310 was last amended to reflect amendments proposed in this rulemaking.

2. Proposal for Consumer Products

Staff is proposing amendments to sections 94508, 94509, 94512, 94513, and 94515 of the Consumer Products Regulation. The regulation is codified in title 17, CCR, sections 94507-94517.

a. Definitions, section 94508

A number of definitions are proposed for modification, addition, or deletion. These proposals would streamline the regulation, clarify various provisions, provide consistency, and improve enforceability. The amendments would also reorganize several definitions to make them easier to find. Several of the definitions proposed for modification warrant a further description.

Staff is proposing to modify the definitions for four “Lubricant” subcategories. The definition for “Dry Lubricant” would be modified to explicitly state that any product meeting the definition of “Dry Lubricant,” regardless of type of use, is a “Dry Lubricant” and not subject to any VOC standard for any other regulated “Lubricant.” The “Multi-purpose Lubricant” and “Silicone-based Multi-purpose Lubricant” definitions would be modified to specify that products labeled solely for a single purpose are not “Multi-purpose Lubricants.” The definition for “Gear, Chain, or Wire Lubricant” would be modified to specify that lubricants labeled solely for use on chains of chain-driven vehicles are not included.

Staff is proposing modifications to the definitions of “Multi-purpose Solvent” and “Paint Thinner.” First we would indicate that these categories include any product form, rather than just liquids as they are currently defined. Staff is also proposing to strengthen the exemption criteria for specialty thinning products designed for use with “Industrial Maintenance Coatings,” “Zinc-rich Primers,” and “High Temperature Coatings.”

Staff is proposing to define “No Rinse Shampoo” and “Thermal Protectant” to clarify that these products are not considered “Hair Styling Products.” A “No Rinse Shampoo” would be defined as a product used solely to be applied to dry hair to clean, absorb oil, or eliminate odor, that is subsequently removed from the hair without the use of water (by combing, brushing, or toweling the hair). A “Thermal Protectant” would be defined as a product used solely to protect hair from heated appliances.

Staff is proposing new definitions for “Single Purpose Cleaner” and “Single Purpose Degreaser” to clarify that a product exclusively for use on a single object or its parts is not a “General Purpose Cleaner” or a “General Purpose Degreaser.”

Staff is proposing to amend the VOC definition in the Consumer Products Regulation to provide an exemption for HFO-1234ze. Our proposal follows action by the United States Environmental Protection Agency (U.S. EPA) to add HFO-1234ze to the list of compounds excluded from the federal VOC definition (U.S. EPA, 2012). Staff conducted a multi-media impacts assessment and determined that HFO-1234ze has negligible impacts on ground-level ozone, a low GWP value of 6, and is nonozone depleting (U.S. EPA, 2013). Staff also evaluated the chemical to determine if any potential adverse health impacts could result from use of HFO-1234ze in various products and found none.

b. VOC limits, section 94509

Staff is proposing new or lower VOC limits for the categories shown in Table ES-1.

**Table ES-1
Proposed VOC Standards, Emissions, and Reductions**

Product Category	Proposed VOC Standard (percent by weight)	VOC Emissions* (tons per day)	Effective Date	VOC Reductions (tons per day)
Mist Spray Adhesive	30	0.49	1/1/2017	0.22
Screen Printing Adhesive	55	0.08	1/1/2017	0.01
Web Spray Adhesive	40	0.28	1/1/2017	0.07
Aerosol Multi-purpose Solvent and Paint Thinner	10	0.18	1/1/2016	0.10
Total Emissions	1.0**			
Total VOC Reductions	0.4**			

* Survey emissions adjusted for market coverage, except for aerosol “Multi-purpose Solvent” and “Paint Thinner.”

** Numbers are rounded.

As shown in Table ES-1, the limits would become effective on January 1, 2016, and January 1, 2017, and would reduce VOC emissions by about 0.4 tons per day. In addition, a 1 percent by weight “Aromatic Compound” content limit, effective January 1, 2016, is proposed for aerosol “Multi-purpose Solvent” and “Paint Thinner” products.

In aerosol “Multi-purpose Solvent,” aerosol “Paint Thinner” and “Screen Printing Adhesive” products, use of methylene chloride, perchloroethylene, trichloroethylene, and compounds with GWP of 150 or greater would be prohibited. This same GWP limit is proposed for “Mist Spray Adhesives” and “Web Spray Adhesives.”

Related to the “Multi-purpose Lubricants,” through results of a technical assessment we have determined that manufacturers are on track to meet the 25 percent by weight VOC limit at the end of this year. However, the resources expended have been greater than anticipated. As such, manufacturers are behind schedule for initiating their research and development efforts to meet the more challenging 10 percent by weight VOC limit, scheduled to become effective December 31, 2015. Because of this, staff is proposing to delay the effective date of the 10 percent VOC limit until December 31, 2018. This proposed change would result in delaying about 1.3 tons per day of VOC emission reductions for three years.

c. Provisions for Multi-purpose Solvent and Paint Thinner Products in SCAQMD

SCAQMD staff has also made us aware that their Rule 1143 is not fully achieving the expected benefits, and has asked for our assistance. This is primarily because manufacturers have taken advantage of an exclusion within their definition of “Multi-purpose Solvent.” The language is shown below:

“...Multi-purpose Solvents” also do not include any products making any representation that the product may be used as, or is suitable for use as a consumer product which qualifies under another definition in California Code of Regulations Title 17, § 94508 as of the date of adoption.”

By including on the product label some reference to an ARB regulated Consumer Product category, manufacturers have skirted compliance with SCAQMD’s rule. For example, a product labeled on the principal display panel as “Odorless Mineral Spirits” which is clearly a “Multi-purpose Solvent” would include a small reference to be suitable for use as a “General Purpose Degreaser” in small font on the back panel of the label. This labeling then excludes such a product from being subject to Rule 1143 because it is making a claim for a category regulated by the ARB. Examples of “Multi-purpose Solvent” and “Paint Thinner” labels are shown in Appendix H.

To stem this circumvention staff is proposing to incorporate the limit of 25 g/L VOC set forth in their Rule 1143 into ARB’s regulation, along with consistent testing procedures. We are also proposing to add language to clarify that in SCAQMD nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products, regardless of any additional claims

made on the label, remain “Multi-purpose Solvents” or “Paint Thinners.” These modifications would become effective on January 1, 2015.

d. Labeling provisions for “Multi-purpose Solvent” and “Paint Thinner” products

Section 94512(e)(1) prohibits the sale of flammable or extremely flammable “Multi-purpose Solvent” or “Paint Thinner” unless certain labeling criteria are met. This provision is scheduled to sunset on December 31, 2015. At the time this provision was put in place, it applied to only liquid forms of “Multi-purpose Solvent” and “Paint Thinner” products. Because staff is now proposing to regulate aerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products, staff is proposing to extend these safety labeling provisions until December 31, 2017, as a safety precaution and to address the ongoing concerns of stakeholders. This proposal is designed to ensure that, should aerosol “Multi-purpose Solvent” and “Paint Thinner” products be reformulated to increase the product’s flammability the consumer would be warned that the product is different. This warning would be especially necessary for products containing large amounts of acetone. While most aerosol forms of these products are already labeled as ‘flammable’ because they are formulated with flammable propellants, extending the date where this warning label is required would provide additional protection. As proposed, the safety labeling provisions would apply to all forms (aerosol and nonaerosol) of “Multi-purpose Solvent” and “Paint Thinner” products until December 31, 2017.

3. Proposal for Aerosol Coating Products

Staff is proposing to amend the Aerosol Coating Products Regulation which is codified in title 17, CCR, sections 94520-94528.

a. Definitions, section 94521

The proposed amendments would define three new product categories, modify many existing definitions, and add 15 definitions. The proposed definitional changes would clarify various regulatory provisions, provide consistency between regulations, better define product categories, define terms necessary for interpreting regulatory provisions, and delete expired definitions to streamline the regulation. In particular, we are proposing to modify the definitions for “Flat Coating,” “Metallic Coating,” and “Nonflat Coating” to include in these categories products that function both as paint and primer, if certain labeling provisions are met.

b. Reactivity Limits and Requirements, section 94522

The proposed amendments would specify new or lower Reactivity Limits for 16 aerosol coating categories. The Reactivity Limit is expressed as the product weighted maximum incremental reactivity (PWMIR) and is grams of ozone per gram product (g O₃/g product). The proposed limits for 6 “General Coating” categories and 10 “Specialty Coating” categories are shown in Table ES-2. In combination, these categories represent over 95 percent of reported sales.

As shown in Table ES-2, reactive organic compound (ROC) emissions are about 26 tons per day, and the proposed limits would result in an equivalent VOC reduction of about 3.7 tons per day. The effective date for the limits would be January 1, 2017.

We are also proposing to “cap” the Reactivity Limits for 23 “Specialty Coating” categories. Staff has determined that further lowering the Reactivity Limits would provide negligible air quality benefits, and would not be cost effective or commercially and technologically feasible. However, most of the proposed “cap” limits are lower than the existing limits and are set as low as possible to prevent future increases. Because the limits do not require reformulation an earlier effective date of January 1, 2015, is proposed.

Table ES-2
Proposed Reactivity Limits for General Coatings and Specialty Coatings (A), Emissions, and Reductions

Coating Category	Proposed Reactivity Limit** (g O₃/g Product)	ROC Emissions* (tons per day)	Equivalent VOC Reductions*** (tons per day)
Clear Coating	0.85	2.1	0.4
Flat Coating	0.80	3.0	0.5
Fluorescent Coating	1.30	0.1	>0.0
Metallic Coating	1.25	1.8	0.2
Nonflat Coating	0.95	11.5	1.7
Primer	0.70	2.5	0.4
Auto Body Primer	0.95	0.75	0.10
Exact Match Finish, Engine	0.95	0.36	0.05
Exact Match Finish, Automotive	0.95	0.39	0.03
Exact Match Finish, Industrial	1.20	0.22	0.02
Ground Traffic/Marking Coating	0.85	2.90	0.35
Electrical/Electronic/Conformal Coating ⁺	2.00	0.03	>0.0
Flexible Coating ⁺⁺	1.60	0.08	>0.0
Mold Release Coating ⁺	1.10	0.18	>0.0
Uniform Finish Coating ⁺⁺	1.30	0.00	>0.0
Two Component Coating ⁺⁺	1.20	0.00	>0.0
Total Emissions		26***	
Total Equivalent VOC Reductions			3.7***

* Calendar year 2010 emissions adjusted for complete market coverage

** 2010 MIR Values

*** Numbers are rounded.

⁺ Indicates previously exempt coating category

⁺⁺ Indicates new coating category

Other proposed modifications would harmonize the sell-through provisions with those in the Consumer Products Regulation. The three year sell-through period would be unchanged, however, specific requirements for products sold in multi-unit packages would be added. If the aerosol coating is sold or supplied within the last 6 months of the sell-through period, provisions would also require that notice must be given to the purchaser that the sell-through is expiring.

A number of changes are proposed to the provisions pertaining to the assignment of MIR values including setting default MIR values for ingredients that are not listed in the Tables of MIR Values. The default MIR values proposed are designed to provide flexibility, but are set such that the reactivity of the ingredient is likely lower, and are, therefore, conservative.

4. Proposed Repeal of the Hairspray Credit Program

The Hairspray Credit Program is a voluntary program that was designed to encourage early and/or over compliance with the 55 percent by weight VOC hairspray standard by issuing credits that could be used to, among other things, obtain additional time to comply with VOC standards for other consumer products.

Because ability to use credits ended on January 1, 2010, staff is recommending that the Hairspray Credit Program be repealed in its entirety.

5. Proposal for Tables of MIR Values

Staff is proposing to reorganize the “Oxygenated Organics” section of the Tables of MIR Values. Rather than the current organization by carbon number, staff would list the compounds by chemical class to make them easier to find.

6. Proposal for Method 310

Staff is proposing changes to Method 310 to improve analysis of consumer products and aerosol coatings for compliance. Expired procedures would be deleted, protocols for analyzing for hydrocarbon solvents would be added, and modifications would be made to the procedures to analyze the VOC content of “Fabric Softener – Single Use Dryer Product.”

E. Compliance with the Proposed Limits

Staff has proposed limits that are commercially and technologically feasible within the timeframes provided by identifying reformulation pathways or ensuring that products are already being sold that comply with the limits.

1. Consumer Products

The most likely reformulation pathways for manufacturers of noncomplying “Mist Spray Adhesive,” “Screen Printing Adhesive,” and “Web Spray Adhesive” products include use of exempt solvents, increasing product solids content, developing water-based technology, or formulating with a non-VOC propellant. Staff is also aware of new technologies that have become available since the survey was conducted.

We expect manufacturers of aerosol “Multi-purpose Solvent” and “Paint Thinner” products to employ the same reformulation options to meet the proposed 10 percent by weight VOC limit as those used to reformulate nonaerosol products to meet the 3 percent VOC limit coming into effect in December 2013, with the addition of a propellant. Manufacturers may comply with these requirements by formulating products using a non-VOC propellant, exempt solvents, or using emulsion technology using exempt VOCs.

A 25 g/L limit for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products has been in effect since January 1, 2011, in the SCAQMD. Products sold in the SCAQMD should already be in full compliance. Our proposal to duplicate these SCAQMD provisions in ARB’s rule is designed to stem circumvention, and ensure that the expected benefits from SCAQMD’s rule are fully realized.

To meet the proposed prohibition on the use of methylene chloride, perchloroethylene, trichloroethylene, or compounds with GWP limit above 150 will not require reformulation because no use of these compounds was reported. The proposals are designed to prevent future use of these compounds.

2. Aerosol Coatings

Our evaluation of the aerosol coating categories shows that there are complying products being sold and that a variety of reformulation options are available. Rather than elimination of ROCs, the limits require substitution of higher reactive solvents and propellants with lower reactive ingredients. Increased use of acetone or methyl acetate is a likely option. Depending upon the resin system used, reformulation options include use of n-butyl acetate, isobutyl acetate, n-propyl propionate, isobutyl butyrate and other esters, ketones, and glycol ethers. The reactivity of the coatings could also be lowered through the use of water-based formulations, such as water-soluble alkyd systems.

F. Environmental Impacts

Based on staff’s analysis, we have determined that implementing the proposed amendments will have an overall beneficial impact on the environment because VOC emissions from consumer products and the ozone forming potential (OFP) of aerosol coatings will be reduced. No significant adverse environmental impacts were identified. No alternatives or mitigation measures were identified because no adverse

environmental impacts are expected. A complete analysis of the potential environmental impacts of the proposal is contained in Chapter V of the Staff Report.

The proposed amendments would reduce VOC emissions by about four tons per day. Other proposals would ensure that use of compounds with higher GWPs, methylene chloride, perchloroethylene, and trichloroethylene does not begin in certain products.

The amendments to provide further clarity should also aid stakeholders in understanding how to comply, thereby improving overall compliance with the regulations. In addition, the provisions proposed for “Multi-purpose Solvent” and “Paint Thinner” products would result in fully realizing the expected air quality benefits.

Related to amendments to the Consumer Products Regulation, staff is proposing to delay from December 31, 2015, to December 31, 2018, a 10 percent by weight VOC limit for “Multi-purpose Lubricant” products to address commercial and technological feasibility. This proposed amendment would delay for three years an expected 1.3 tons per day VOC reductions.

Related to proposed amendments to the Aerosol Coatings Regulation staff has identified the potential for a very small increase in the OFP of “Hobby/Model/Craft” and “Shellac Sealer” coatings. To streamline the regulation, staff is proposing to delete the subcategories for these coatings and set a single limit effective January 1, 2015. In the interim, until the revised limits become effective, manufacturers of these coatings could reformulate their products to increase the OFP of their products. If all coatings were to reformulate we estimate that there would be an equivalent VOC increase of less than 0.1 ton per day for several months. Products reported in the 2010 Survey, in the “Hobby/Model/Craft” and “Shellac Sealer” coatings categories are already in full compliance with the lower limits proposed to become effective on January 1, 2015. Therefore, staff does not expect an increase to occur.

However, overall emissions from consumer products will continue to decline. We expect a reduction in VOC emissions of about 5 tons per day to occur beginning December 31, 2013, and a further reduction of about 0.2 tons per day to occur beginning December 31, 2014, from VOC limits proposed for adoption in 2009 and 2010 rulemakings. Additionally, beginning in 2017, an equivalent VOC reduction of about four tons per day will be realized from implementation of these proposed amendments.

Because of this, staff has determined that these proposals would not result in a significant adverse impact. No significant adverse impacts were identified.

G. Environmental Justice

Staff has determined that the amendments proposed in this rulemaking are consistent with our environmental justice policies. The proposed amendments would reduce VOC emissions by about 4 tons per day statewide. Of this amount, about 1.8 tons per day reduction would occur in the SCAQMD. Use of certain TACs and compounds with high

GWP would also be prohibited in several categories. Many of the proposals are also designed to improve compliance.

Generally, use of consumer products and aerosol coatings is fairly uniform across the State, tracking with housing units, and their emissions are spread over the course of a day, rather than concentrated at a particular time of day. For these reasons, we believe that reducing emissions from the use of consumer products and aerosol coatings would benefit all Californians. We do not expect any communities, especially those with low-income and minority populations, regardless of location, to be disproportionately impacted by adoption of the proposed amendments.

H. Economic Impacts

The economic impacts of the proposed amendments are summarized here. Our complete analysis of these impacts is contained in Chapter VII of the Staff Report.

1. Overall Cost

Staff has estimated that the overall cost to comply with the proposed limits is about \$5,300,000 per year for five years, or about \$26.5 million in total. The cost includes both recurring (e.g., raw materials) and nonrecurring (e.g., research and development) costs.

2. Cost Effectiveness

Staff also determined the “dollars to be spent per pound of VOC reduced,” or cost effectiveness (CE). The CE of the proposed amendments has been calculated to be about \$1.82 per pound of VOC equivalent emissions reduced. This cost effectiveness compares favorably with other recent consumer products rulemakings. The CE of rulemakings in 2006, 2008, 2009, and 2010 was about \$2.35, \$6.23, and \$0.29, and \$0.98 per pound of VOC reduced, respectively.

3. Return on Owners’ Equity (ROE)

ROE is a calculation which compares a company’s percentage reduction in profitability before and after incurring the costs associated with the proposed amendments. The analysis found that the overall reduction in profitability ranges from negligible to about 6.3 percent. While these percentages are not considered significant, the potential exists that some manufacturers may experience a significant impact in their profitability.

We have determined that overall, most affected businesses’ profitability will not be adversely affected. If they are unable to absorb all or a portion of the compliance costs, these costs will be passed through to the consumer.

4. Impacts on California Businesses

Because we found that the proposed amendments would not significantly alter the profitability of most businesses, as shown in our ROE analysis, we do not expect a noticeable change in employment; business creation; elimination or expansion; and business competitiveness in California. However, the proposed amendments may impose economic hardship on businesses with very little or no margin of profitability.

5. Increased Cost to Consumers

As a result of this proposal, consumers may have to pay more for some products, depending upon the extent to which manufacturers pass along their compliance costs. If all assumed compliance costs are passed on to the consumer, we estimate the average price of aerosol adhesives and aerosol “Multi-purpose Solvent” and “Paint Thinner” would increase by no more than \$0.12 to \$0.42 per unit. For products representing over 95 percent of aerosol coating sales, we estimate the cost per unit increase would range from \$0.05 to \$0.53. For some specialized aerosol coating products, the cost to the consumer could be higher.

We also estimated that a household annually purchases less than one unit of aerosol adhesive or aerosol “Multi-purpose Solvent” or “Paint Thinner” product, and less than three units of aerosol coatings. The consumer’s annual cost increase to purchase an aerosol adhesive product or aerosol “Multi-purpose Solvent” or “Paint Thinner” would be about \$0.12 to \$0.42. The consumer’s annual cost increase to purchase three cans of Aerosol Coating Products would increase by about \$0.15 to \$1.59 per year.

6. Fiscal Impacts

Staff has determined that the proposed amendments will not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any State agency or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, or other non-discretionary savings to local agencies

I. Regulatory Development Process

Our process for development of these proposed amendments included a number of formal and informal opportunities for public participation. Consumer product manufacturers, chemical producers, marketers, trade associations, SCAQMD, U.S. EPA and various other stakeholders participated in the process.

The public process to develop the proposed amendments for aerosol adhesives and aerosol coating categories began in January 2011 with the release of the 2010 Consumer & Commercial Products Survey Update for Aerosol Coating and Adhesive

Products (2010 Survey). The 2010 Survey provides detailed information on sales and product formulations which allows for calculation of emissions. The data also serves as a basis for evaluating potential limits and reformulation strategies to ensure that the maximum feasible emission reductions are achieved. Summaries of the data were shared with stakeholders in late 2011 and early 2012.

Staff also held public workshops on September 12, 2012, February 26, 2013, and April 24, 2013, to discuss the amendments proposed in this rulemaking. The information discussed at the workshops was posted on our consumer products program webpage, and stakeholders were notified *via* a list server announcement. The workshop notices were distributed *via* the consumer products electronic list server, which has over 2,800 subscribers.

In addition to workshops, staff held discussions with individual stakeholders and associations representing manufacturers, and distributors, of consumer products. Staff also participated in two technical seminars conducted by the aerosol coating industry in our Sacramento offices. These seminars provided an opportunity for staff to gather technical information regarding the opportunities and challenges facing the industry in reformulating products.

In 2012, staff also conducted technical assessments to evaluate the technical feasibility of the 25 percent by weight VOC limit for “Multi-purpose Lubricant” products and the 3 percent by weight VOC limit for “Multi-purpose Solvent” and “Paint Thinner” products. These limits will become effective on December 31, 2013.

J. Recommendation

Staff recommends that the Board adopt the proposed amendments to the Antiperspirants and Deodorants Regulation, the California Consumer Products Regulation, the Aerosol Coating Products Regulation, and the Tables of MIR Values. The proposals would modify, clarify, streamline, and improve enforcement of the regulations. Proposed VOC limits for various consumer product categories would reduce VOC emissions by about 0.4 tons per day, and the Reactivity Limits for aerosol coatings would reduce equivalent VOC emissions by about 3.7 tons per day. The amendments would also ensure that the limits are commercially and technologically feasible within the timeframes provided. Staff also recommends that the Board repeal the Hairspray Credit Program as its usefulness has expired. Additionally, staff recommends that the proposed modifications to Method 310 be adopted as they are necessary to set forth testing procedures to determine compliance with various limits.

I. Introduction and Background

In this rulemaking, California Air Resources Board (ARB or Board) staff is proposing amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of Maximum Incremental Reactivity (MIR) Values, and Method 310. We are also proposing to repeal the Hairspray Credit Program as its usefulness has expired.

This report is ARB staff's technical justification and analysis of the proposed amendments. It is part of the Initial Statement of Reasons (ISOR) for the Proposed Amendments to the Antiperspirants and Deodorants Regulation, the California Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of MIR Values, Method 310, and proposed repeal of the Hairspray Credit Program. The proposed amendments to the regulations, Tables of MIR Values, and Method 310 are found in Appendices A through F of this document.

Included in this report is the following information:

- the purpose for proposing the amendments;
- background information on the consumer products (including aerosol coatings) program;
- a description of the public problems, the proposed solutions, and the rationale supporting the solutions;
- a summary of the proposed action in plain language;
- a description of categories for which requirements are proposed;
- an analysis of the expected environmental impacts;
- an assessment of how the proposed action aligns with the ARB's environmental justice policies;
- the economic impacts associated with complying with the proposed amendments;
- a summary and rationale for the regulatory proposals; and
- the public process staff used to develop the proposal.

A. Specific Purpose for the Adoption, Amendment, or Repeal

The primary purpose of the proposed amendments is to lower the impacts that volatile organic compound (VOC) emissions from use of aerosol coatings and consumer products have on the formation of ground-level ozone. VOCs are precursors to the formation of ground-level ozone and secondary particulate matter. Thus, the proposed

amendments are designed to work toward improving air quality in California. The purposes for proposing other amendments include providing clarity to a number of definitions, providing reformulation flexibility by exempting a compound from the VOC definition, extending a compliance date for a VOC standard to address commercial and technological feasibility, and repealing provisions that have expired. The purpose of other proposals is to stem circumvention of the intent of provisions for “Multi-purpose Solvent” and “Paint Thinner” products, particularly for products sold in the South Coast Air Quality Management District (SCAQMD). The purpose for proposing amendments to Method 310 is to establish provisions to test various products for compliance.

The sections proposed for amendment to fulfill these purposes are codified in title 17, California Code of Regulations, (CCR) sections 94500-94506.5, 94507-94517, 94520-94528, 94560-94575, and 94700-94701.

B. Background

To date, the Board has taken numerous actions to fulfill the legislative mandate pertaining to the regulation of consumer products. An overview of the ARB’s authority to regulate consumer products, a synopsis of the regulations adopted to date, and a comparison of California and national consumer products regulations follows.

1. Enabling Legislation

The Health and Safety Code sets forth ARB’s authority to regulate consumer products to control VOC emissions and greenhouse gas (GHG) emissions. Section 41712 specifies requirements to reduce VOC emissions primarily as a ground-level ozone control strategy. Section 38500 *et seq.*, establishes authority to reduce emissions of GHGs from consumer products as part of ARB’s climate change mitigation strategy. Authority to mitigate potential adverse impacts of proposed regulations is set forth in Public Resources Code section 21000 *et seq.* A summary of each of these requirements in State law follows.

Consumer products are defined as chemically formulated products used by household and institutional consumers. Examples include antiperspirants and deodorants, detergents, cleaning products, floor finishes, personal care products, lawn and garden products, adhesives, air fresheners, disinfectants, automotive maintenance products, paint thinners, insecticides, and aerosol coatings.

a. Health and Safety Code section 41712

As part of the State’s effort to reduce air pollutants, in 1988, the Legislature added section 41712 to the California Clean Air Act (CCAA or “the Act”) in the Health and Safety Code. Section 41712, along with subsequent amendments, requires ARB to adopt regulations to achieve the maximum feasible reduction in VOC emissions from consumer products. The CCAA specified that attainment of the California State ambient air quality standards is necessary to promote and protect public health, particularly of

children, older people, and those with respiratory diseases. The Legislature also directed that these standards be attained by the earliest practicable date.

Prior to adopting regulations, the Board must determine that adequate data exist to establish that the regulations are necessary to attain State and federal ambient air quality standards. Commercial and technological feasibility of the regulations must also be demonstrated. The Act further stipulates that regulations adopted must not eliminate any product form, and that recommendations from health professionals be considered when developing VOC control measures for health benefit products.

b. Health and Safety Code section 38500 *et seq.*

In 2006, Assembly Bill (AB) 32, The California Global Warming Solutions Act of 2006, was signed into law. This law created a comprehensive, multi-year program to reduce GHG emissions in California. The California Health and Safety Code, commencing with section 38500, contains these provisions. AB 32 requires ARB to develop regulations and consider market-based compliance mechanisms that will ultimately restore California's GHG emissions to the 1990 baseline year by 2020. Beyond the requirements of AB 32, a Governor's Executive Order EO-S-03-05 calls for an 80 percent GHG reduction from 1990 levels by 2050.

c. Public Resources Code section 21000 *et seq.*

In addition to requirements set forth in California's Health and Safety Code, the California Environmental Quality Act (CEQA) requires that environmental impacts of proposed regulations be evaluated. If significant adverse environmental impacts are identified, mitigation measures must be put in place, if available, to reduce or eliminate such impacts. The provisions of CEQA are contained in California's Public Resources Code, commencing with section 21000 *et seq.*

2. Existing Consumer Products Regulations

For more than twenty years, the Board has taken actions to fulfill the legislative mandates pertaining to the regulation of consumer products. Three regulations have set VOC limits for 129 consumer product categories.

The three regulations that set VOC limits for consumer products, when fully effective, will result in reducing VOC emissions by about 50 percent compared to 1990 levels. By 2020, limits on the use of ingredients with higher global warming potential (GWP) values will provide reductions of approximately 0.23 million metric tons of carbon dioxide equivalents (MMT CO₂e) per year.

Exposure to toxic air contaminants (TAC) has also been reduced by prohibiting use of certain chlorinated compounds in 83 categories. Total emissions of TACs have been reduced by over 13 tons per day.

In addition, two voluntary regulations, the Alternative Control Plan (ACP) and the Hairspray Credit Program have been adopted to provide compliance flexibility to companies. The five consumer product regulations are codified in title 17, CCR, sections 94500 to 94575 as follows:

- Antiperspirants and Deodorants (Article 1, sections 94500-94506.5);
- Consumer Products (Article 2, sections 94507-94517);
- Aerosol Coating Products (Article 3, sections 94520-94528);
- Alternative Control Plan (Article 4, sections 94540-94555); and
- Hairspray Credit Program (Article 5, sections 94560-94575).

Tables of MIR Values have also been adopted to implement the Aerosol Coating Products Regulation. These values are codified in Subchapter 8.6, Article 1, sections 94700 and 94701.

3. Consumer Products and State Implementation Plan (SIP)

Federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and inhalable particulate matter to develop State Implementation Plans (SIP) describing how they will attain national ambient air quality standards (NAAQS).

A SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), local air district rules, and State and federal regulations. The Code of Federal Regulations (CFR) title 40, Chapter I, Part 52, Subpart F, section 52.220 sets forth all of the items which are included in the California SIP.

Because they are ozone precursors, reducing VOC emissions has been necessary to work toward attainment of the ambient air quality standards for ozone. In 1988, with the passing of the CCAA, the importance of controlling emissions from consumer products was set forth. In 1994, emission reductions from consumer products became part of the SIP to meet the federal standard for ozone.

The 2007 SIP, the State Strategy for California's 2007 State Implementation Plan, is California's plan to attain the NAAQS for ozone of 0.08 parts per million (ppm) averaged over eight hours. In the 2007 SIP, ARB set a target to achieve an additional statewide VOC reduction of 30 to 40 tons per day from consumer products by January 1, 2014.

With respect to the ozone standard, the United States Environmental Protection Agency (U.S. EPA) set a standard of 0.075 ppm in 2008. On April 30, 2012, U.S. EPA issued a final rule that directs key aspects of the implementation of this standard. U.S. EPA has also issued a proposed rule that will guide implementation of the 2008 ozone standard and will address SIP deadlines and other implementation issues. We are targeting 2015 to submit new SIPs for the 0.075 ppm ozone standard.

Up-to-date information on SIP activities can be found on ARB's website at:
<http://www.arb.ca.gov/planning/sip/sip.htm>.

4. Consumer Products and the California Global Warming Solutions Act of 2006 (AB 32)

Various consumer products may contain GHGs in their formulations. Most often, these GHGs are propellants such as hydrofluorocarbons (HFC) or carbon dioxide (CO₂). To a lesser extent some GHGs are used as solvents. As mentioned previously, a reduction of 0.23 MMT CO₂e has already been achieved. We continue to evaluate whether GHG emission reductions from other consumer product categories are feasible.

5. National Consumer Products Regulation

On September 11, 1998, U.S. EPA promulgated a national consumer products regulation, the "National Volatile Organic Compound Emission Standards for Consumer Products" (40 CFR Part 59, Subpart C, sections 59.201 *et seq.*). This action set national VOC emission standards for various categories of consumer products. The regulation became effective on September 11, 1998, and the VOC limits became effective on December 10, 1998. There are similarities and differences between the California and national consumer products regulations. However, the national regulation does not preclude states from adopting more stringent regulations.

The national consumer products regulation is less effective than the California Consumer Products Regulation in reducing VOC emissions from consumer products. The national regulation does not regulate a number of product categories that are currently regulated under the ARB regulation. Of the categories that are regulated under both regulations, many of ARB's limits are more stringent than the national limits. Therefore, ARB's Consumer Products Regulation has achieved significant additional reductions over those that would be achieved by the national rule.

The U.S. EPA has also promulgated a national regulation for aerosol coatings; "National Volatile Organic Compound Emission Standards for Aerosol Coatings" (40 CFR Part 59, Subpart E, sections 59.500 *et seq.*) modeled on ARB's Aerosol Coating Products Regulation. This is a reactivity-based regulation. The national aerosol coatings regulation was promulgated on March 24, 2008, with a compliance date of July 1, 2009.

While the limits in both rules are similar, ARB's regulation is more effective because it applies to all products sold, supplied, offered for sale, or manufactured for sale in California. U.S. EPA's rule exempts from compliance manufacturers whose national sales are less than 7,500 kilograms (16,500 pounds) per year. ARB's regulation also applies to commercial application of aerosol coatings.

The national regulations for consumer products and aerosol coatings do not prohibit the use of certain TACs. To date, the California Consumer Products Regulation and the Aerosol Coating Products Regulation include prohibitions on the use of certain TACs in

83 categories, resulting in a reduction of toxic compound emissions of over 13 tons per day.

As of the date of this staff report, there are no national consumer products regulations related to reducing GHG emissions.

C. Regulatory History

This section summarizes the history of the regulation of consumer products with emphasis on the categories that are the subject of this rulemaking. A more detailed regulatory history is provided in Chapter IV.

1. Antiperspirants and Deodorants Regulation

Regulation of consumer products began in 1989 with adoption of the Antiperspirants and Deodorants Regulation. At that time, the Board established standards based on the vapor pressure of VOCs. The Antiperspirants and Deodorants Regulation has been amended several times, with the most recent amendments proposed for adoption in October 2000.

2. Consumer Products Regulation

The “general” Consumer Products Regulation was approved for adoption in 1990 and has been amended numerous times. The most recent amendments to the Consumer Products Regulation were approved for adoption on October 18, 2012. These amendments clarified the requirements for “Automotive Windshield Washer Fluid.”

In the Consumer Products Regulation, we are proposing new or lower VOC limits for Aerosol Adhesives, and new VOC limits for aerosol “Multi-purpose Solvent” and “Paint Thinner” categories. Additional amendments to clarify existing regulatory provisions are also proposed. A summary of the regulatory history for these categories follows.

a. Aerosol Adhesives

Aerosol Adhesives were first regulated in 1992 as part of the “Phase II” amendments. Modifications to the original amendments to address commercial and technological feasibility were proposed for adoption in May 2000. These amendments also divided Aerosol Adhesives into “Mist Spray Adhesive,” “Web Spray Adhesive,” and “Special Purpose Spray Adhesive” categories. The “Special Purpose Spray Adhesive” category was further divided into seven subcategories. These amendments also prohibited the use of methylene chloride, perchloroethylene, and trichloroethylene in aerosol adhesives.

b. Multi-purpose Solvent and Paint Thinner Products

In 2009, the Board approved for adoption VOC limits for liquid “Multi-purpose Solvent” and “Paint Thinner” products. A VOC limit of 30 percent by weight became effective on December 31, 2010. A lower VOC limit of 3 percent by weight will become effective on December 31, 2013. The regulation also prohibited the use of methylene chloride, perchloroethylene, and trichloroethylene and limited the use of aromatic compounds to 1 percent by weight. These provisions became effective December 31, 2010.

Also relevant to the history of regulating “Paint Thinner” and “Multi-purpose Solvent” products, on March 6, 2009, SCAQMD adopted Rule 1143, “Consumer Paint Thinners and Multi-Purpose Solvents” (Rule 1143) which applies to consumer “Paint Thinner” and “Multi-purpose Solvent” products sold in the SCAQMD.

3. Aerosol Coating Products Regulation

The Aerosol Coating Products Regulation was adopted in 1995 and has been amended several times. In 1995, mass-based VOC limits were adopted for 6 “General Coating” categories and 29 “Specialty Coating” categories. Amendments in 1998 addressed the commercial and technological feasibility of some of the VOC limits. In 2000, the regulation was amended to establish Reactivity Limits based on the MIR scale. The Reactivity Limits for the general categories became effective June 1, 2002, and the limits for the specialty categories became effective January 1, 2003. Minor amendments in 2004 and 2006 clarified exemptions and test methods, respectively.

4. Hairspray Credit Program

In November 1997, the Board approved for adoption the Hairspray Credit Program. Under this voluntary program, manufacturers who complied with the second-tier 55 percent by weight VOC hairspray standard before the June 1, 1999, effective date could be awarded credits until the standard took effect. In addition, manufacturers who formulated hairsprays with VOC levels below 55 percent could be awarded credits for products manufactured up to January 1, 2005. These credits could be used to obtain additional time to comply with VOC standards for other consumer products, to mitigate excess emissions resulting from the granting of a variance from the hairspray standard, or to offset shortfalls under any ACP. Any accrued credits expired after five years or in 2005, whichever was later.

5. Tables of MIR Values

Tables of MIR Values were first proposed for adoption in 2000 along with amendments to the Aerosol Coating Products Regulation. The tables are used to determine the reactivity content of aerosol coatings. Amendments to these tables were adopted in 2004 and 2010 to reflect updated science.

6. Method 310

Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products (Method 310), was first adopted in 1997 and has been amended several times. This method sets forth a process to determine compliance with various regulatory provisions. In 2011, the method was amended to specify procedures for analyzing the aromatic compound content in “Multi-purpose Solvent” and “Paint Thinner” products and to specify the procedures for analyzing for the VOC content of “Fabric Softener-Single Use Dryer Product.”

II. Statement of Reasons

In this chapter we describe the problems and issues that the proposed amendments are intended to address. The proposed solutions to the problems and issues, along with the rationale supporting the proposed solutions are described.

A. Description of Public Problem Proposal is Intended to Address

The overarching problem is that the majority of California residents continue to be exposed to pollutant concentrations that exceed health-based standards for ozone and particulate matter. Volatile organic compound emissions from consumer products (which include aerosol coatings) are known to contribute to the formation of ground-level ozone and particulate matter. Despite developing regulations to reduce consumer products' VOC emissions by over 209 tons per day, it is estimated that current VOC emissions are approximately 205 tons per day. This represents about 13 percent of the overall statewide VOC inventory. Moreover, without further action, consumer product VOC emissions are expected to grow, as California's population grows, to approximately 213 tons per day statewide in 2020. In fact, it is predicted that emissions from use of consumer products will be the largest source of VOC emissions in the SCAQMD, the region of California with the most severe pollution problem.

1. Problems Identified with the Consumer Products Regulation

Beyond the need for further emission reductions as mentioned above, stakeholders have also asked for guidance on interpreting a number of definitions. Specifically, within the Consumer Products Regulation they have asked for:

- a better distinction between "General Purpose" and "Single Purpose" as it applies to cleaning and degreasing products;
- clarification on the types of products that are regulated as "Hair Styling Products;"
- clarification on the applicability of the regulation to various lubricant products; and
- a VOC exemption to provide an additional reformulation option (this would be applicable for products regulated under the Antiperspirants and Deodorants Regulation as well).

In reviewing the Consumer Products Regulation staff also identified a number of additional definitions that could be better organized, improved by deleting expired portions, or could be more consistent with the Aerosol Coating Products Regulation.

In addition, staff has determined that the regulation of “Paint Thinner” and “Multi-purpose Solvent” products has not resulted in the full benefits expected, especially for those products sold in the SCAQMD. Unclear definitions and exemption criteria have led to noncompliance with the regulatory intent and expected emission reductions have not been fully achieved. Stakeholders have also expressed ongoing concerns related to flammability of “Multi-purpose Solvent” and “Paint Thinner” products.

Another issue that has come to light pertains to “Multi-purpose Lubricant” products. A technical assessment conducted as to the feasibility of a 25 percent VOC limit scheduled to become effective at the end of this year (2013) indicated that manufacturers were on track to comply. However, the assessment also revealed that the resources expended to reformulate to meet this limit exceeded predictions. Hence, manufacturers are behind schedule on the research and development that will be necessary to meet the more challenging 10 percent VOC limit scheduled to become effective at the end of 2015.

2. Problems Identified with the Aerosol Coating Products Regulation

The Aerosol Coating Products Regulation has not been substantively updated or amended since 2000. In light of this a number of regulatory improvements are deemed necessary, including:

- clarification of the applicability of the regulation;
- modification, addition, and deletion of definitions to improve clarity;
- providing additional clarity on calculating a product’s reactivity;
- updating to use more recent MIR values that reflect the latest science;
- promoting consistency with the Consumer Products Regulation;
- clarifications on the enforcement process; and
- streamlining of the regulation by deleting expired provisions.

In addition, there is a need to further reduce the impacts of aerosol coating product emissions to work towards attaining ambient air quality standards. Lowering of Reactivity Limits would also ensure that the maximum feasible reductions continue to be achieved.

3. Problems Identified with Hairspray Credit Program

To promote regulatory streamlining the Hairspray Credit Program should be repealed as the ability to generate or use credits has expired.

4. Problems Identified with Method 310

Among other things, ARB Method 310 is used to verify compliance with the Consumer Products Regulation and the Aerosol Coating Products Regulation. To ensure that various consumer products and aerosol coating products can be fully analyzed to determine compliance with various regulatory provisions, updates, additions, and deletions to methods are necessary. In particular, the methods to analyze for “Fabric Softener – Single Use Dryer Product” and hydrocarbon solvents used in aerosol coating products need to be improved. Analytical procedures to determine compliance with the provisions for “Paint Thinner” and “Multi-purpose Solvent” products sold in the SCAQMD are also needed.

B. Proposed Solutions to the Problems

To rectify the problems described in Part A, staff has identified a number of solutions and is proposing amendments to implement the solutions. In this section, the proposed solutions are summarized. Chapter III has a summary of the proposed amendments.

1. Solutions to the Problems Identified with the Consumer Products Regulation

To address the need for additional VOC emission reductions, staff is proposing to set lower VOC limits for “Mist Spray Adhesive” and “Web Spray Adhesive” categories, and is proposing a new VOC limit for the “Screen Printing Adhesive” subcategory of “Special Purpose Spray Adhesive.”

To ensure that the intended benefits from the regulation of “Paint Thinner” and “Multi-purpose Solvent” are achieved, a number of modifications are being proposed. First the definitions for these categories would be modified to make it clear that all product forms are regulated. Staff is also proposing to strengthen exemption criteria for “Industrial Maintenance Coating,” “Zinc Rich Primer,” and “High Temperature Coating” thinners such that *only* those products used to thin these specialty coatings qualify for the exemption.

At present, “Paint Thinner” and “Multi-purpose Solvent” products sold in the SCAQMD must comply with the provisions of both ARB’s regulation and SCAQMD’s Rule 1143. However, language in the definition of “Multi-purpose Solvent” in Rule 1143 has allowed products to circumvent complying with the rule through a labeling loophole. To correct this situation, staff is proposing that the provisions of Rule 1143 be duplicated in ARB’s regulation to stem the circumvention.

In addition, VOC limits for aerosol forms of “Paint Thinner” and “Multi-purpose Solvent” products are proposed. Because these products may be reformulated in a manner that increases flammability, we are proposing to extend for an additional two years the

provision that prohibits the sale of flammable or extremely flammable “Multi-purpose Solvent” or “Paint Thinner” unless they are labeled to warn the consumer of this hazard.

To solve the problem with understanding the distinction between “General Purpose” and “Single Purpose” as it applies to cleaning and degreasing products, staff is proposing to amend the definitions of “General Purpose Cleaner” and “General Purpose Degreaser” to better describe the types of products that meet the definition. Additionally, definitions of “Single Purpose Cleaner” and “Single Purpose Degreaser” are proposed. These definitions would explicitly specify that these products are not “General Purpose Cleaner” or “General Purpose Degreaser” products. While no VOC limits are proposed for “Single Purpose Cleaner” or “Single Purpose Degreaser” products, a prohibition on the use of certain toxic compounds is proposed.

To clarify the types of products that are regulated as “Hair Styling Products,” staff is proposing to define the products that do not meet the definition and explicitly exclude them from the definition. In particular, staff would clarify whether products designed solely to protect hair during the heat styling process and dry shampoo products are considered “Hair Styling Products.” The “Hair Gel” definition is also proposed for deletion.

Related to feasibility of VOC limits for “Multi-purpose Lubricant” products, we are proposing to provide more time beyond 2015 to meet the 10 percent VOC limit. The extension until 2018 should allow manufacturers the necessary time to develop products that comply with the 10 percent VOC limit. The timeframe for conducting a further technical assessment of the VOC limit would also be extended.

We are proposing to amend the definition for “Dry Lubricant” to clarify that the intent of the regulation has always been that any “Dry Lubricant” product is exempt from compliance with VOC limits for various other lubricant product categories. We are also proposing to amend the definition for “Gear, Chain, or Wire Lubricant” to clarify that lubricants labeled solely for use on chains of chain-driven vehicles are not included.

To provide manufacturers with an additional formulation option to meet lower VOC limits, an exemption from the VOC definition is proposed for 1,3,3,3-Tetrafluoropropene (HFO-1234ze). The compound would be exempted from the VOC definition in both the Antiperspirants and Deodorants Regulation and the Consumer Products Regulation.

With the goal of further improving or clarifying regulatory provisions, staff is proposing to make a number of changes to definitions to better organize, delete or add language to clarify our intent, provide consistency with definitions in the Aerosol Coating Products Regulation, and streamline the regulation by deleting expired provisions.

2. Solutions to the Problems Identified with the Aerosol Coating Products Regulation

All Aerosol Coating Products have always been subject to the regulation. Staff is proposing an amendment to explicitly state this in section 94520, Applicability.

Staff is proposing to modify, add, or delete a number of definitions to assist stakeholders in their understanding of the regulation. Provisions related to sell-through and labeling are also being proposed for modification to provide consistency with the Consumer Products Regulation.

To further reduce the ozone forming potential (OFP) of Aerosol Coating Products, staff is proposing to set new or lower Reactivity Limits for aerosol coatings. The Reactivity Limit is expressed as the product weighted maximum incremental reactivity (PWMIR) and is grams of ozone per gram product ($\text{g O}_3/\text{g product}$).

To ensure that manufacturers understand how to calculate a product's PWMIR, staff is proposing a number of changes. The amendments would:

- establish a default MIR value to use if an MIR value does not exist in the Tables of MIR values;
- allow manufacturers to use the MIR value for an isomer of a compound if a value for the isomer exists in the Tables of MIR values;
- establish a default MIR value for fragrance compounds; and
- provide further clarity on ingredients that are considered nonreactive.

The proposed amendments would also establish that, as soon as the amendments become effective, manufacturers would be required to use the 2010 MIR values rather than the 2001 values.

As part of the compliance process manufacturers have been required to supply formulation data upon notification. Amendments are being proposed to further clarify what types of information need to be provided, but also allow more time to supply the information. The amendments would also specify that failure to provide the information, or supply incorrect information, is a violation. The proposal would also establish MIR values to be used to determine the weighted reactivity of hydrocarbon solvents.

The existing regulation contains both mass-based VOC and reactivity-based ROC provisions. The mass-based provisions have expired. To streamline the regulation, staff is proposing to delete the expired provisions.

3. Solutions to the Problem Identified with the Hairspray Credit Program Regulation

Because the ability to use credits ended on January 1, 2010, staff is proposing that the Hairspray Credit Program be repealed in its entirety, to streamline the suite of consumer product regulations.

4. Solutions to the Problems Identified with Method 310

We are proposing changes to Method 310 to improve analysis of consumer products and aerosol coatings for compliance. Amendments include additional procedures to analyze aerosol coatings, establish testing procedures for “Paint Thinner” and “Multi-purpose Solvent” products sold in the SCAQMD, and a modification of the equation for calculating the total grams of VOC per sheet for “Fabric Softener – Single Use Dryer Product.” Expired test procedures are also proposed for deletion.

C. Rationale Supporting the Proposed Solutions

The proposed amendments are designed to improve air quality, assist stakeholders to better understand the regulations, and ensure that expected benefits from the regulations are fully achieved, while ensuring the proposed limits are commercially and technologically feasible within the timeframes provided.

Because the majority of California residents live in areas that exceed ambient air quality standards, emission reductions continue to be necessary. These proposed amendments would reduce VOC emissions from several consumer product categories and lower the OFP of Aerosol Coating Products. Therefore, these amendments represent further progress toward improving air quality.

Staff has also determined that the limits proposed are commercially and technologically feasible within the timeframes provided, by identifying reformulation pathways or ensuring that products are already being sold that comply with the limits. Further information on the categories for which new and lower limits are being proposed is contained in Chapter IV. Through an analysis, staff also determined that providing a VOC exemption for HFO-1234ze would provide reformulation flexibility and would not likely result in any potential adverse impacts on health or other media.

The other proposals would:

- streamline and provide additional clarity and consistency between regulations;
- strengthen the enforcement process;
- ensure the feasibility of the future effective VOC limit for “Multi-purpose Lubricant” products;

- stem circumvention of the regulatory intent pertaining to “Multi-purpose Solvent” and “Paint Thinner” products; and
- where necessary, ensure that certain toxic compounds and compounds with high global warming potential are not used.

Clarifying the regulations should lead to improved compliance, while strengthening of the enforcement process ensures a level playing field. Other proposals would ensure that expected emission reductions are fully achieved.

D. Alternatives Considered

Government Code section 11346.2 requires ARB to consider and evaluate reasonable alternatives to the proposed regulation and provide reasons for rejecting those alternatives. We identified two alternative approaches to the current proposal: “No action,” and “set more stringent VOC and reactivity limits.” Our rationale for rejecting these alternatives, in favor of the proposal chosen, follows.

1. Alternative One – No Action

A “no action” alternative would be to forego adopting the proposed amendments, or delay adoption of the proposed measures. The “no action” alternative would result in failing to make progress toward meeting the ambient air quality standards. In addition, the citizens of California would not benefit from the improved air quality that would result from the reduction of emissions being proposed. This alternative would have no cost to business.

2. Alternative Two – Set More Stringent VOC and Reactivity Limits

Staff thoroughly evaluated each category for which a limit is proposed. Limits were proposed based on low emitting technologies reported in the 2010 Survey. Stakeholders provided additional information pertinent to the categories and, in some cases, proposed alternative limits. We evaluated all comments and determined the most feasible limit and effective dates from all of the alternatives proposed or considered. The final proposal contains limits that were determined to obtain the maximum feasible emissions reduction, were commercially and technologically feasible, and preserved product forms.

III. Summary of Proposed Action and Recommendation

This chapter summarizes the proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of MIR Values, and Method 310. The proposed repeal of the Hairspray Credit Program is also summarized. A more detailed description of each proposed amendment, along with its rationale, is presented in Chapter VIII.

A. Proposed Amendments to the Antiperspirants and Deodorants Regulation

Staff is proposing amendments to sections 94501 and 94506 of the Antiperspirants and Deodorants Regulation. The entire regulation is codified in title 17, CCR, sections 94500-94506.5.

In section 94501 staff is proposing to modify the VOC definition to provide an exemption for HFO-1234ze. The rationale for this proposal is set forth in section B.1 of this Chapter. Section 94506 would be amended to update the reference to Method 310.

B. Proposed Amendments to the Consumer Products Regulation

Staff is proposing amendments to sections 94508, 94509, 94512, 94513, and 94515 of the Consumer Products Regulation. The entire regulation is codified in title 17, CCR, sections 94507-94517.

1. Definitions, section 94508

A list of twenty-two definitions proposed for modification, six proposed for addition, and one proposed for deletion is provided in Table III-1. Definitions are contained in section 94508.

**Table III-1
Proposed Definitional Amendments**

Modified Definitions	
Adhesive	Hair Finishing Spray
Aerosol Adhesive	Hair Styling Product
Air Freshener	Insecticide
Artist's Solvent/Thinner	Lubricant
Construction, Panel or Floor Covering Adhesive	Multi-purpose Solvent
Deodorant Body Spray	Paint Thinner
Fabric Protectant	Rubber/Vinyl Protectant
Footwear or Leather Care Product	Temporary Hair Color
General Purpose Cleaner	Undercoating
General Purpose Degreaser	Volatile Organic Compound
Hair Shine	Waterproofer
New Definitions	
No Rinse Shampoo	Single Purpose Cleaner
Nonaerosol	Single Purpose Degreaser
Screen Printing Adhesive	Thermal Protectant
Deleted Definition	
Hair Styling Gel	

The proposed amendments to existing definitions would streamline the regulation, clarify various provisions, provide consistency, and improve enforceability. The amendments would also reorganize several definitions to make them easier to find. The newly proposed definitions would clarify applicability of existing and new category requirements. Deletion of the term "Hair Styling Gel" is proposed because it is no longer needed. Several of the definitions proposed for modification warrant a further description.

"Lubricant"

We are proposing to modify the definitions for four "Lubricant" subcategories. The definition for "Dry Lubricant" would be modified to explicitly state that any "Dry Lubricant," regardless of end-use function, is a "Dry Lubricant" and not subject to any VOC standard for any other regulated "Lubricant." The "Multi-purpose Lubricant" and "Silicone-based Multi-purpose Lubricant" definitions would be modified to specify that lubricants labeled solely for a single purpose are not "Multi-purpose Lubricants." The definition for "Gear, Chain, or Wire Lubricant" would be modified to specify that lubricants labeled solely for use on chains of chain-driven vehicles are not included.

"Multi-purpose Solvent" and "Paint Thinner"

Staff is proposing a number of modifications to the definitions of "Multi-purpose Solvent" and "Paint Thinner." First, we would indicate that these categories include any product form rather than just liquids as they are currently defined. We are also proposing to

strengthen the exemption criteria for specialty thinning products designed for use with “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” and “High Temperature Coatings.” Certain aerosol products perform a function to blend a spot repair to match the appearance of an adjacent area’s existing coating. Products performing this function are sometimes referred to as “edge blenders” and may or may not contain a resin. Staff is proposing to define those “edge blenders” containing a resin as “Uniform Finish Coating,” and is also proposing a Reactivity Limit for this category. However, to ensure that all such edge blending products are regulated, those containing no resins would be defined as “Paint Thinners” in the Consumer Products Regulation and would be subject to the proposed 10 percent by weight mass-based VOC limit proposed for aerosol “Paint Thinner” products. Additional clarifications are also proposed.

“No Rinse Shampoo” and “Thermal Protectant”

Staff is proposing to define “No Rinse Shampoo” and “Thermal Protectant” to clarify that these products are not “Hair Styling Products” as long as they are labeled solely as “No Rinse Shampoo” or “Thermal Protectant.” A “No Rinse Shampoo” would be defined as a product exclusively used to be applied to hair that is dry to clean, absorb oil, or eliminate odor, that is subsequently removed from the hair without the use of water. A “Thermal Protectant” would be defined as a product used solely to protect hair from heated styling appliances.

“Screen Printing Adhesive”

A new definition for “Screen Printing Adhesive” is proposed to describe a new subcategory of “Special Purpose Aerosol Adhesive” product. Such a product is used to hold garments or fabric in place during the screen printing process.

“Single Purpose Cleaner” and “Single Purpose Degreaser”

Staff is proposing new definitions for “Single Purpose Cleaner” and “Single Purpose Degreaser” to clarify that such products designed for use on a single object or its parts are not “General Purpose Cleaner” or “General Purpose Degreaser,” respectively.

“Volatile Organic Compound” (VOC)

HFO-1234ze is a compound that could be used as a consumer product aerosol propellant. It has the potential to replace VOC hydrocarbon propellants and exempt HFC propellants with high GWP values such as hydrofluorocarbon-134a (HFC-134a) and hydrofluorocarbon-152a (HFC-152a). On August 8, 2012, staff received a petition from Honeywell requesting that ARB provide an exemption for HFO-1234ze in the Consumer Products Regulation (Honeywell, 2012). This request followed action by the U.S. EPA on June 22, 2012, to add HFO-1234ze to the list of compounds excluded from the federal VOC definition. In providing the exemption, U.S. EPA determined that HFO-1234ze has negligible impacts on ground-level ozone (U.S. EPA, 2012).

In evaluating the petition, staff conducted a multi-media impacts assessment and concurred with U.S. EPA's findings that HFO-1234ze has negligible impacts on ground-level ozone formation. Information also indicates that HFO-1234ze has a low GWP value of 6, and is non-ozone depleting (U. S. EPA, 2013). Staff also evaluated the chemical to determine if any potential adverse health impacts could result from use of HFO-1234ze in various consumer products.

As a first step, staff requested that the Office of Environmental Health Hazard Assessment (OEHHA) review the available toxicological data to develop appropriate health values to be used in an exposure assessment. As a result, OEHHA developed acute and chronic screening reference exposure levels (REL) of 1,600 and 2 ppm (7,500 and 9 milligrams per cubic meter), respectively (OEHHA, 2012).

Based on comments from the petitioner, the most likely application would be use of HFO-1234ze in "Pressurized Gas Duster" products. Because "Pressurized Gas Duster" products would contain 100 percent HFO-1234ze, use of this product in the exposure analysis provided a realistic, but high end exposure.

Using "Pressurized Gas Duster" product survey data, staff calculated that a California household would, on average, use a "Pressurized Gas Duster" product about once a month with a typical use rate of about 10 grams. Based on the usage rate in a small room with a low air exchange rate, staff calculated an acute exposure concentration of 101 ppm, well below the screening REL of 1,600 ppm.

To evaluate potential worker exposure, staff again used survey data on "Pressurized Gas Duster" products. In a realistic but high end exposure scenario, staff assumed use of a "Pressurized Gas Duster" product in a small electronic repair business with a low air exchange rate. Staff further assumed that the shop would complete one repair per hour, and use 10 grams per repair, or 80 grams per day. Using an 8-hour time-weighted average model staff calculated a concentration of 2 ppm, equivalent to the screening chronic REL.

Based on the results of these exposure scenarios staff concludes that use of HFO-1234ze would not likely cause any potential adverse health impacts from use of this compound in consumer products. We also note that the exposure analysis assumed a product contained 100 percent HFO-1234ze. The amount of this compound in any other product in which it would be used, as a propellant (such as an antiperspirant or hair finishing spray) would be considerably less of the formulation, up to about 30 percent, so the analysis is conservative.

Based on our assessment staff is proposing to modify the definition of "Volatile Organic Compound" in the Consumer Products Regulation to exclude HFO-1234ze.

2. Proposed VOC limits and requirements, section 94509

To address the need for additional VOC emission reductions, staff is proposing lower VOC limits for the “Mist Spray Adhesive” and “Web Spray Adhesive” categories, and new VOC limits for the “Screen Printing Adhesive” subcategory of “Special Purpose Spray Adhesive,” and aerosol “Multi-purpose Solvent” and “Paint Thinner” categories. These limits and proposed effective dates are shown in Table III-2 and would be set forth in section 94509.

Table III-2
Proposed VOC Standards, Emissions, and Reductions

Product Category	Proposed VOC Standard (percent by weight)	2010 VOC Emissions* (tons per day)	Effective Date	VOC Reductions (tons per day)
Mist Spray Adhesive	30	0.49	1/1/2017	0.22
Screen Printing Adhesive	55	0.08	1/1/2017	0.01
Web Spray Adhesive	40	0.28	1/1/2017	0.07
Aerosol Multi-purpose Solvent and Paint Thinner	10	<0.12**	1/1/2016	0.10
Total Emissions 2010	1.0*			
Total VOC Reductions 2017	0.40*			

* Survey emissions adjusted for market coverage. Numbers are rounded.

** The aerosol “Multi-purpose Solvent” and “Paint Thinner” data are for 2012 and are not adjusted for market coverage

As shown in Table III-2, the proposed amendments would reduce VOC emissions by about 0.4 tons per day. The proposed limits for aerosol “Multi-purpose Solvent” and “Paint Thinner” products are designed to level the playing field for all forms of “Multi-purpose Solvent” and “Paint Thinner” products.

In addition, to ensure that products are not reformulated to use compounds with higher GWP, staff is proposing to prohibit the use of compounds with a GWP value equal to or greater than 150 in “Mist Spray Adhesive,” “Screen Printing Adhesive,” “Web Spray Adhesive,” and aerosol forms of “Multi-purpose Solvent,” and “Paint Thinner.” Staff is also proposing to prohibit use of chlorinated TACs in “Screen Printing Adhesive” and aerosol “Multi-purpose Solvent” and “Paint Thinner” products.

Although not shown in Table III-2, we are proposing to incorporate VOC limits of 25 grams per liter (g/L) for nonaerosol “Multi-purpose Solvents” and “Paint Thinners” sold in the SCAQMD, effective January 1, 2015. These limits would be consistent with those in SCAQMD Rule 1143 “Consumer Paint Thinners and Multi-purpose Solvents”

and are designed to address circumvention of some of their rule's provisions. Section 94515 would be amended to include testing procedures that are consistent with those specified in Rule 1143. Within the "Most Restrictive Limit" provision in section 94512 we would also specify that it does not apply to nonaerosol "Multi-purpose Solvent" and "Paint Thinner" products in SCAQMD. In addition, section 94512 would be amended to extend until December 31, 2017, the provision that prohibits the sale of flammable or extremely flammable products unless specifically labeled to warn the consumer of the potential hazard. This would address stakeholders' ongoing concerns related to flammability of "Multi-purpose Solvent" and "Paint Thinner" products.

3. Multi-purpose Lubricant

Through results of a technical assessment, we have learned that, while manufacturers are on track to meet the 25 percent VOC limit that becomes effective at the end of this year, the resources expended have been greater than anticipated. As such, manufacturers are behind schedule for initiating their research and development efforts to meet the more challenging 10 percent by weight VOC limit, scheduled to become effective December 31, 2015. Because of this, staff is proposing to delay the effective date of the 10 percent VOC limit until December 31, 2018. This proposed change would result in delaying about a 1.3 ton per day of VOC emission reduction for 3 years. Staff is also proposing to delay the feasibility assessment for the 10 percent by weight limit until March 31, 2017. The new reporting date would be set forth in section 94513.

C. Proposed Amendments to the Aerosol Coating Products Regulation

We are proposing to amend sections 94520-24528, the Aerosol Coating Products Regulation. The regulation is codified in title 17, CCR sections 94520-94528.

1. Applicability, section 94520

All Aerosol Coating Products sold in California have always been subject to the regulation. We are proposing to explicitly state this in section 94520.

2. Definitions, section 94521

The proposed amendments would define three new product categories, modify many existing definitions, and add 15 definitions. A list of these definitions is provided in Table III-3. In addition to the definitions shown in Table III-3, a number of minor nonsubstantive clarifying amendments are proposed to various definitions.

The proposed definitional changes would clarify various provisions, provide consistency between regulations, better define product categories, and streamline the regulation by deleting expired definitions. Several definitions warrant further discussion.

**Table III-3
Proposed Amendments to Definitions**

Modified Definitions	
Adhesive Aerosol Coating Product Coating Solid Electrical/Electronic/Conformal Coating Exact match Finish, Automotive Exact match Finish, Engine Exact match Finish, Industrial Flat Coating High Temperature Coating Lubricant Maskant	Metallic Coating Mold Release Coating Nonflat Coating Propellant Reactivity Limit Reactive Organic Compound Rust Converter Slip Resistant/Nonslip Grip Coating Spatter/Multicolor/Stucco Coating Vinyl/Fabric/Leather/Plastic Coating Wood Stain Coating
New Definitions	
Antimicrobial Compound Coating Exact Match Finish Extender Flexible Coating Fragrance General Coating Label	Pigment Plasticizer Principle Display Panel or Panels Resin Specialty Coating Two Component Coating Uniform Finish Coating
Deleted Definitions	
Automotive Underbody Coating Enamel Lacquer	Percent VOC by Weight Stain Volatile Organic Compound (VOC)

“Flat Coating,” “Metallic Coating,” and “Nonflat Coating”

We are proposing to modify the definitions for “Flat Coating,” “Metallic Coating,” and “Nonflat Coating” to indicate that such products include products that function both as paint and primer if certain labeling provisions are met. This would mean that products labeled in this way would not be subject to the primer limit under the Most Restrictive Limit provision.

“Flexible Coating”

We are proposing a new definition for “Flexible Coating,” and define it as an aerosol coating product designed and labeled exclusively to provide a flexible coating to protect surfaces. The category would include rubberized, mastic, and asphaltic products, but would not include “Undercoatings” as defined in the Consumer Products Regulation.

To provide clear direction as to how these products are regulated, we would first clarify in the Consumer Products Regulation that “Undercoatings” are designed and labeled exclusively to impart a protective nonpoint layer to vehicle parts to prevent rust or

deaden sound. Such products would continue to be regulated within the Consumer Products Regulation. The definition would further clarify that an undercoating product making any additional claims would be a “Flexible Coating” as defined in the Aerosol Coatings Regulation.

“Rust Converter”

We are proposing to modify the definition of “Rust Converter” to specify that products must contain a minimum acid content of 1.0 percent by weight, and a maximum solids content of 6.0 percent by weight.

“Two Component Coating”

We are proposing a new definition for “Two Component Coating,” and would define it as an aerosol coating product packaged in an aerosol container with a separate integrated chamber for the hardener or activator.

“Uniform Finish Coating”

We are proposing a new definition for “Uniform Finish Coating,” and would define it as an aerosol coating product designed and labeled exclusively for application to the area adjacent to a spot repair for the purpose of blending the spot repair’s color or clear coating to match the appearance of an adjacent area’s existing coating. The definition would also indicate that “Spot Repair” means repair of an area of less than 1 square foot. This category would include products labeled as edge blenders that contain a pigment or resin. Edge blenders containing no pigment or resin would be defined as “Paint Thinner” in the Consumer Products Regulation.

3. Reactivity Limits and Requirements, section 94522

The proposed amendments would specify new or lower Reactivity Limits for 16 aerosol coating categories. The proposed limits for 6 “General Coating” categories and 10 “Specialty Coating” categories are shown in Tables III-4 and III-5.

As shown in Table III-4, ROC emissions from “General Coating” categories are about 21 tons per day and the proposed limits would result in an equivalent VOC reduction of about 3.1 tons per day. The proposed effective date for all limits is January 1, 2017.

As shown in Table III-5, ROC emissions from these “Specialty Coatings” are about five tons per day and the proposed limits would result in an equivalent VOC reduction of about 0.55 tons per day. Together the VOC limits for the 6 “General Coating” categories and the 10 “Specialty Coating” categories would result in equivalent VOC reductions of about 3.7 tons per day. As proposed, these limits would become effective on January 1, 2017.

Table III-4
Proposed Reactivity Limits for General Coatings,
Emissions, and Reductions*

General Coating Category	Proposed Reactivity Limit** (g O₃/g Product)	ROC Emissions* (tons per day)	Equivalent VOC Reductions** (tons per day)
Clear Coating	0.85	2.1	0.4
Flat Coating	0.80	3.0	0.4
Fluorescent Coating	1.30	0.1	> 0.0
Metallic Coating	1.25	1.8	0.2
Nonflat Coating	0.95	11.5	1.7
Primer	0.70	2.5	0.4
Total Emissions	21 tons per day*		
Total Equivalent VOC Reduction**	3.1 tons per day*		

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded.

** Based on 2010 MIR Values

Table III-5
Proposed Reactivity Limits for Specialty Coatings (A),
Emissions, and Reductions*

Specialty Coatings (A) Category	Proposed Reactivity Limit (g O₃/g product)*	ROC Emissions (tons per day)	Equivalent VOC Reductions (tons per day)*
Auto Body Primer	0.95	0.75	0.10
Exact Match Finish: Engine	0.95	0.36	0.05
Exact Match Finish: Automotive	0.95	0.39	0.03
Exact Match Finish: Industrial	1.20	0.22	0.02
Ground Traffic/Marking Coating	0.85	2.90	0.35
Electrical/Electronic/Conformal Coating**	2.00	0.03	>0.0
Flexible Coating***	1.60	0.08	>0.0
Mold Release Coating**	1.10	0.18	>0.0
Uniform Finish Coating***	1.30	0.00	>0.0
Two Component Coating***	1.20	0.00	>0.0
Total Emissions	4.9*		
Total Equivalent VOC Reductions	0.6*		

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded.

** Previously exempt

* Based on 2010 MIR Values

*** Newly defined.

We are also proposing to “cap” the Reactivity Limits for 23 “Specialty Coating” categories. This would include setting a limit for the previously exempt “Rust Converter” products. Staff has determined that lowering the Reactivity Limits for these small categories would provide negligible air quality benefits, and would not be cost effective or commercially and technologically feasible. However, most of the proposed “cap” limits are lower than the existing limits and are set as low as possible to prevent future increases. Because the limits do not require reformulation, an earlier effective date of January 1, 2015 is proposed.

In an effort to streamline the regulation, we are proposing to combine all types of “Hobby/Model/Craft” coatings with a single limit of 2.7 g O₃/g product. Also, both “Shellac Sealer” coatings would be combined into a single category with a limit of 1.0 g O₃/g product. These proposals could result in a small increase in OFP of these products’ emissions for several months until the lower limits become effective on January 1, 2015. If all products were to reformulate to the temporary higher limits, we estimate the potential equivalent emission increase would be about 0.1 tons per day. Any increase is unlikely, however, because all products in these categories already are complying with the proposed 2015 limits.

Other proposed modifications would harmonize the sell-through provisions with those in the Consumer Products Regulation. The three year sell-through period would be unchanged, however, specific requirements for products sold in multi-unit packages would be added. Provisions would also require that notice be given to the purchaser that the sell-through is expiring if the aerosol coating is sold or supplied to a distributor or retailer within the last 6 months of the sell-through period.

A number of changes are proposed to the provisions pertaining to the assignment of MIR values. Language is being proposed to further describe ingredients that are assigned MIR values of 0.0. This would include “Antimicrobial Compounds” and “Fragrance,” provided they are present in amounts of no more than 0.25 percent by weight.

The current regulation does not allow use of ROCs that are not listed in the Tables of MIR Values, sections 94700-94701, title 17, CCR. To provide flexibility staff is proposing to set a default MIR value to be used for any compound not listed, allow use of the isomer for an ingredient if there is no MIR value, and set a default value to be used for any fragrance over 0.25 percent by weight. The default MIR values proposed for use are set such that the reactivity of the ingredient is likely lower, and are, therefore, conservative.

4. Exemptions, section 94523

The proposed amendments would eliminate the exemptions for “Electrical Coating,” “Mold Release Coating,” and “Rust Converter” products because staff has determined that they are no longer needed. In addition, the definition of “Electrical Coating” would

be expanded to include electronic and conformal coatings. As proposed, Reactivity Limits would be set for these previously exempt categories.

5. Administrative Requirements, section 94524

A number of amendments are proposed to the labeling requirements to harmonize with those in the Consumer Products Regulation. However, the amendments would not change the requirement that all aerosol coatings must be labeled to include the product category and limit. The provisions would establish specific instructions for indicating the date of manufacture for individual units and multi-unit packages. To provide flexibility, the amendments would also not require manufacturers to supply annually to ARB a description of any code used to represent the date of manufacture if a specific code is used.

Reporting requirements would also be modified to clarify the types of data to be reported.

6. Test Methods and Compliance Verification, section 94526

Staff is proposing a number of changes related to enforcing the regulation. The current enforcement process requires formulation data to be submitted within 10 working days of receiving written notice that products have been selected for compliance testing. We are proposing to increase the amount of time that manufacturers have to submit the data from 10 to 25 working days and are further clarifying the types of data to be reported. The proposed amendments would also require Responsible Parties to supply contact information as to whom is to receive the notifications, and specify that the information must be updated if it changes.

A new hydrocarbon solvent(s) analysis method is proposed for addition to Method 310 (Appendix F). To implement this testing procedure, staff is proposing MIR values for hydrocarbon groups (by carbon number) that would be used to determine the weighted MIR for each hydrocarbon solvent(s) fraction, if an aerosol coating product contains one or more hydrocarbon solvent(s).

To streamline the regulation, throughout the regulation, requirements and references to expired VOC mass-based limits and provisions are proposed for deletion.

D. Hairspray Credit Program

Because the ability to use credits ended on January 1, 2010, staff is recommending that the Hairspray Credit Program be repealed in its entirety, to streamline the group of consumer products regulations.

E. Tables of MIR Values

Staff is proposing to reorganize the “Oxygenated Organics” section of the Tables of MIR Values, contained in section 94700, MIR Values for Compounds, title 17, CCR. Rather than the current arrangement which organizes compounds by increasing carbon number, the compounds would be grouped by class of organic compound. For example, all “Aldehydes” would now be grouped together. These changes would make these MIR values easier to find.

F. Method 310

We are proposing changes to Method 310 “Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products” to improve analysis of consumer products and aerosol coatings to determine compliance. Section 3.3.5, pertaining to exempt and prohibited compound analysis, would be modified to indicate that for nonaerosol “Multi-purpose Solvents” and “Paint Thinners” sold in the SCAQMD, analysis for methyl esters with 17 or more carbon atoms would be conducted, if present, effective January 1, 2015. These compounds are considered nonvolatile. Section 3.6 would be modified to explicitly state that, effective January 1, 2015, determination of low vapor pressure VOC (LVP-VOC) compounds does not apply to nonaerosol “Multi-purpose Solvents” and “Paint Thinners” sold in the SCAQMD because no such exemption exists. Additionally, we are proposing to delete both section 3.6.3 and Appendix B to Method 310, pertaining to determining LVP-VOC status using the isoteniscope, as this method is no longer used. We are also proposing to add a new subsection 4.2.4 to provide an equation for calculating final VOC content for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products in SCAQMD.

We are also proposing modification of the equation for calculating the Total Grams of VOC per sheet for “Fabric Softener – Single Use Dryer Product” to incorporate the inclusion of water content and exempt compound content.

Pertaining to analysis of aerosol coatings, we are proposing to modify Section 5.3.5 to indicate direct determination of ROCs and include a reference to modified ASTM D 5443-04. We are also proposing modification of corresponding Standard Operating Procedures (SOP) and are adding specific SOPs (based on modified method ASTM D 5443-04) which would allow for the analysis of hydrocarbons with 6 carbon atoms through C10+ aromatic compounds and hydrocarbons with 5 carbon atoms through C11+ aliphatic hydrocarbon compounds.

Other amendments would add and update test methods.

G. Recommendation

Staff recommends that the Board adopt the proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, and the Tables of MIR values. The proposals would modify, clarify, streamline, and improve enforcement of the regulations. Proposed VOC limits for various consumer product categories would reduce VOC emissions by about 0.4 tons per day, and the Reactivity Limits for aerosol coatings would reduce equivalent VOC emissions by about 3.7 tons per day. The amendments would also ensure that the limits are commercially and technologically feasible within the timeframes provided. Staff also recommends that the Board repeal the Hairspray Credit Program as its usefulness has expired. Additionally, staff recommends that the proposed modifications to Method 310 be adopted as they are necessary to set forth testing procedures to determine compliance with various limits.

IV. Description of Affected Product Categories

This chapter contains a brief regulatory history, a description of the consumer product categories for which we are proposing new or lower VOC standards, and the aerosol coating categories for which we are proposing new or lower Reactivity Limits.

A. Consumer Products

Among the amendments to the Consumer Products Regulation are proposals to lower emissions from “Aerosol Adhesive”, “Multi-purpose Solvent,” and “Paint Thinner” products. These proposals are described below.

1. Aerosol Adhesive

An “Aerosol Adhesive” product is currently defined as an aerosol product in which the spray mechanism is permanently housed in a nonrefillable can designed for hand-held application without the need for ancillary hoses or spray equipment. Aerosol adhesives include “Special Purpose Spray Adhesive,” “Mist Spray Adhesive,” and “Web Spray Adhesive.”

a. Regulatory History

“Aerosol Adhesive” products were first regulated in a 1991 rulemaking, when a category of household adhesives was added to the regulation. Two tiers of VOC limits were adopted for aerosol forms of household adhesives to achieve an estimated emissions reduction of 0.2 tons per day:

- 75 percent by weight, effective January 1, 1995; and
- 25 percent by weight, effective January 1, 1997.

In a November 1996 rulemaking, ARB delayed implementation of the 25 percent by weight VOC standard until 2002, because at that time the Board found that the standard was neither technologically nor commercially feasible. Amendments also required manufacturers to submit data on their efforts to achieve the 25 percent VOC limit.

Based on staff’s analysis of the research and development reports received in 1998, in a May 2000 rulemaking the Board rescinded the future 25 percent by weight VOC limit because it was determined to still be unfeasible. Instead the Board adopted amendments to divide aerosol adhesives into “Mist Spray Adhesive,” with a VOC limit of

65 percent by weight; “Web Spray Adhesive,” with a 55 percent by weight VOC limit; and seven categories of “Special Purpose Spray Adhesive” shown below:

- “Mounting Adhesive;”
- “Flexible Vinyl Adhesive;”
- “Polystyrene Foam Adhesive;”
- “Automobile Headliner Adhesive;”
- “Polyolefin Adhesive;”
- “Laminate Repair/Edgebanding Adhesive;” and
- “Automotive Engine Compartment Adhesive.”

The VOC limits for “Special Purpose Spray Adhesive” categories range from 60 to 70 percent by weight. Together, these limits achieved an emissions reduction of 0.2 tons per day. In that same rulemaking, use of methylene chloride, perchloroethylene, and trichloroethylene was prohibited.

For further information on these rulemakings, the reader is referred to the following rulemaking documents:

- Staff Report for Proposed Amendments to the Statewide Regulation to Reduce Volatile Organic Compound Emissions from Consumer Products, Phase II (ARB, 1991); and
- Staff Report: Initial Statement of Reasons for the Proposed Amendments to the California Consumer Products Regulation Relating to Aerosol Adhesives (ARB, 2000a).

b. Category Descriptions

“Mist Spray Adhesive” products are aerosol adhesives which do not meet the definitions of any of the “Special Purpose Spray Adhesive” categories. These products deliver a particle or mist spray, resulting in the formation of fine, discrete particles that yield a generally uniform and smooth application of adhesive to the substrate. “Mist Spray Adhesive” products are often formulated for use on lightweight materials for both repositionable and permanent bonding.

“Web Spray Adhesive” products are aerosol adhesives which are not a “Mist Spray Adhesive” or “Special Purpose Spray Adhesive.” “Web Spray Adhesive” products produce a nonuniform lace-like or cobweb-type pattern and are often formulated to permanently bond porous substrates and provide gap-filling properties.

The categories comprising “Special Purpose Spray Adhesive” includes “Web Spray Adhesive” and “Mist Spray Adhesive” products that are formulated to perform under special conditions. A new subcategory for “Screen Printing Adhesive” products is proposed in this rulemaking.

In the screen printing process a woven mesh, stretched over a frame, is used to create an ink-blocking stencil for the purposes of printing an image on a fabric substrate. More than one color may be imprinted on the substrate material by letting the ink dry after the application and repeating the process with a different screen. This process can be automated or performed manually. The screen printing process is most commonly used on garments (such as t-shirts) and different fabrics (Wynn, 2013).

A “Screen Printing Adhesive” is sprayed onto what is commonly called a pallet (a surface onto which the substrate to be printed is placed) to hold the fabric in place during the printing process. The required aerosol adhesive properties include an ability to make short-term bonds, tack quickly, and remain repositionable for multiple applications without fabric transfer or wrinkling of the work while in use. For processes that use a flash/heat technique to cure the ink, good heat resistance and stability are also important (CSPA, 2013).

Table IV-1 below summarizes the sales and emissions from “Mist Spray Adhesive,” “Web Spray Adhesive,” and “Screen Printing Adhesive” products based on the results of the 2010 Survey (ARB, 2011). Sales and emissions from “Screen Printing Adhesive” products were reported as either “Mist Spray Adhesive” or “Web Spray Adhesive” products.

**Table IV-1
Aerosol Adhesive Data**

Aerosol Adhesive Category	Number of products	2010 Category Sales (tons per day)	2010 Market-Adjusted VOC Emissions (tons per day)*
Mist Spray Adhesive	77	0.93	0.49
Web Spray Adhesive	62	0.52	0.28
Screen Printing Adhesive	6	0.14	0.08
Total		1.59	0.86

*Survey emissions adjusted for complete market coverage. The numbers are rounded.

As shown in Table IV-1, sales of about 1.6 tons per day of these products resulted in VOC emissions of about 0.9 tons per day. Although not shown in the table, the sales weighted average VOC contents are about 53, 54, and 60 percent by weight for “Mist Spray Adhesive,” “Web Spray Adhesive,” and for “Screen Printing Adhesive,” respectively.

It should be noted that since these products were last surveyed in 2003, emissions have declined.

Product Use and Marketing:

Aerosol adhesives are used for arts and crafts, automotive bodywork, construction, screen printing, packaging, upholstery and embroidery. Aerosol adhesives are sold in auto parts stores, mass-merchandisers, hardware stores, large home improvement centers and through industrial distributors.

Product Formulation:

Although aerosol adhesives are primarily solvent-based, in recent years water-based products have been introduced. Solvent-based adhesives consist primarily of propellants, a mixture of VOC and exempt solvents, and active ingredients (mainly resins).

The active ingredients are highly proprietary and consist of rubbers, tackifying resins and additives. Solvents are used to solubilize and carry the active ingredients. Typical VOC solvents reported in the 2010 Survey include pentane, hexane, heptane, toluene and cyclohexane. Exempt VOC solvents, such as acetone and methyl acetate, are widely used as well, ranging from 4 to 40 percent by weight of product formulations. Typical VOC propellants reported in the 2010 Survey include propane, butane, isobutane and dimethyl ether.

Proposed Amendments Pertaining to Aerosol Adhesive Products

Staff is proposing to modify the definition of "Aerosol Adhesive" to accommodate a process that allows products to be recycled and refilled. This would provide an environmental benefit.

The proposed definition would read as follows: "Aerosol Adhesive" means any adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a can designed for hand-held application without the need for ancillary hoses or spray equipment. "Aerosol Adhesive" includes "Special Purpose Spray Adhesive," "Mist Spray Adhesive," and "Web Spray Adhesive."

In addition, the proposed new definition for the new subcategory, "Screen Printing Adhesive," would read as follows: "Screen Printing Adhesive" means an aerosol adhesive designed and labeled exclusively to hold garments or fabric in place during the screen printing process.

Another proposal would reorganize all adhesive definitions, aerosols and nonaerosols, within the basic definition of "Adhesive."

The proposed VOC limits for "Mist Spray Adhesive," "Web Spray Adhesive," and "Screen Printing Adhesive" are shown in Table IV-2.

**Table IV-2
Aerosol Adhesive Proposal**

Aerosol Adhesive Category	Proposed VOC limit (weight percent)	Number of Complying Products	Complying Market Share (percent)	Emissions Reductions (tons per day)*
Mist Spray Adhesive	30	12	2.3	0.22
Web Spray Adhesive	40	4	3.5	0.07
Screen Printing Adhesive	55	0	0	0.01
Total				0.30

*2010 Survey data emissions adjusted for complete market coverage. Numbers are rounded.

As shown in Table IV-2, the proposed limits would result in a total estimated VOC emission reduction of about 0.3 tons per day effective January 1, 2017. Emission reductions were not grown to the effective date because 2010 Survey data indicate that category sales have declined since aerosol adhesives were previously surveyed in 2003. These limits are proposed based on staff's review of data collected from the 2010 Survey as well as the review of existing and newer technologies.

Table IV-2 also shows that in 2010, 12 "Mist Spray Adhesive," representing about 2 percent of the market, and 4 "Web Spray Adhesive," representing about 4 percent of the market, already were in compliance with the proposed limits. Staff has also learned that, since the 2010 Survey, a number of additional "Mist Spray Adhesive" and "Web Spray Adhesive" products are being sold that would comply with the proposed lower VOC standards. No "Screen Printing Adhesive" products were reported that would comply with the proposed 55 percent by weight VOC limit.

"Mist Spray Adhesive" and "Web Spray Adhesive" products differ in how the adhesive is delivered. Although "Web Spray Adhesive" products do not require a fine mist, characteristics of some high-performance products designed for particular applications require a higher VOC content than for "Mist Spray Adhesive" products, in order to maintain these properties. Therefore, the proposed VOC limit for "Web Spray Adhesive" products is higher than the proposed VOC limit for "Mist Spray Adhesive" products.

For "Screen Printing Adhesives," many polymers used cannot tolerate large amounts of exempt compounds, such as acetone and methyl acetate. Therefore, these products do not have as much flexibility to reformulate to lower VOC limits. Although there are no complying "Screen Printing Adhesive" products reported in the 2010 Survey, stakeholders indicated that these products could be reformulated to the proposed 55 percent by weight VOC limit and still continue to maintain the needed performance characteristics.

Reformulation options that can be used to meet the proposed limits include reducing the level of hydrocarbon propellant and replacing part of the VOC hydrocarbon solvent with exempt solvents, such as acetone or methyl acetate. We expect that manufacturers will meet the proposed limits by using formulation technologies similar to those used in the complying products that were reported in the 2010 Survey or new technologies that are now available.

No use of methylene chloride, perchloroethylene, or trichloroethylene was reported in “Screen Printing Adhesives” products. While ARB staff believes these TACs are not likely to be used in the future in reformulated products, ARB staff is proposing that use of methylene chloride, perchloroethylene, and trichloroethylene be prohibited in “Screen Printing Adhesive.” This proposal is consistent with the prohibitions already in effect for “Mist Spray Adhesive” and “Web Spray Adhesive” products. This prohibition would ensure that manufacturers do not choose to reformulate with toxic chlorinated solvents in response to the lower VOC limit. The proposed prohibition would be contained in section 94509(m) of the regulation.

While some HFC-134a propellant was reported in the 2010 Survey, staff is aware that products containing it have reformulated such that it is no longer used. Other than HFC-134a, no compounds with GWP values at or above 150 were reported for the aerosol adhesive categories. To prevent the use of compounds with higher GWP values as products are reformulated to comply with the proposed VOC limits, we are proposing a GWP limit of 150 for any chemical compound used in “Mist Spray Adhesive,” “Web Spray Adhesive,” and “Screen Printing Adhesive” products, effective January 1, 2017. This proposal would allow use of the exempt propellant HFC-152a although other reformulation options are more likely. The proposed GWP limit would be contained in section 94509(n) of the regulation.

2. Multi-purpose Solvent and Paint Thinner

A “Multi-purpose Solvent” is currently defined as any liquid product designed or labeled to be used for dispersing, dissolving, or removing contaminants or other organic materials. This definition has been in effect since 2009. The “Multi-purpose Solvent” category includes:

- products that do not display specific use instructions on the product container or packaging;
- products that do not specify an end-use function or application on the product container or packaging;
- solvents used in institutional facilities, except for laboratory reagents used in analytical, educational, research, scientific or other laboratories;
- “Paint clean-up” products; and
- products labeled to prepare surfaces for painting.

The “Multi-purpose Solvent” category does not include:

- solvents used in cold cleaners, vapor degreasers, conveyORIZED degreasers or film cleaning machines;

- solvents labeled exclusively for the clean-up of application equipment used for polyaspartic and polyurea coatings;
- products that are labeled exclusively to clean a specific contaminant, on a single substrate, in specific situations; or
- any product making any representation that the product may be used as, or is suitable for use as a consumer product which meets another definition in section 94508(a).

A “Paint Thinner” is currently defined as any liquid product used for reducing the viscosity of coating compositions or components that prominently displays the term “Paint Thinner,” “Lacquer Thinner,” “Thinner,” or “Reducer” on the front panel of its packaging. This definition has been in effect since 2009. The “Paint Thinner” category does not include:

- “Artist’s Solvent/Thinner;”
- products that are sold in containers with a capacity of 5 gallons or more and labeled exclusively for the thinning of “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings;”
- products labeled and used exclusively as an ingredient in a specific coating or coating brand line, whereby the coating would not be complete or useable without the specific ingredient; or
- products that are labeled to be used exclusively to thin “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings,” as long as certain criteria are met.

a. Regulatory History

The “Multi-Purpose Solvent” category was originally defined to exclude these products from the definition of “Spot Remover” in a July 1997 rulemaking. In a November 2006 rulemaking, the definition was modified to clearly exclude products that make multiple regulated claims on the label and clearly include packaged solvents without specific use claims (such as products labeled as mineral spirits or methyl ethyl ketone). The current definition was approved for adoption as part of a 2009 rulemaking.

The Board originally approved a definition for “Paint Thinner” in a June 2004 rulemaking. The current definition was approved for adoption as part of a 2009 rulemaking.

In the 2009 rulemaking VOC limits and various other requirements for liquid “Paint Thinner” and “Multi-purpose Solvent” products were proposed for adoption. Because it was determined that “Paint Thinners” and “Multi-purpose Solvent” products could be used interchangeably, most of the requirements were identical. A VOC limit of 30 percent by weight was adopted which became effective on December 31, 2010. The now adopted second tier limit of 3 percent VOC by weight will become effective on December 31, 2013. The first tier limits reduced emissions by about 8.4 tons per day and the second tier limits are expected to reduce emissions by almost 4 tons per day

outside SCAQMD. These reductions do not include emission reductions in the SCAQMD. Other amendments approved for adoption in the 2009 rulemaking included:

- a prohibition on use of methylene chloride, perchloroethylene, and trichloroethylene, effective December 31, 2010;
- an aromatic compound limit of 1 percent by weight, effective December 31, 2010;
- a prohibition on use of compounds with a GWP value equal to or greater than 150, effective December 31, 2010;
- safety labeling requirements to address flammability, which are scheduled to sunset in December 31, 2015;
- an exemption for “Paint Thinner” products sold in 8 fluid ounce containers, which is scheduled to sunset on December 31, 2013, and
- a requirement to provide information by June 30, 2012, on research and development efforts conducted to meet the 3 percent VOC limits.

For further information, the reader is referred to the following rulemaking documents:

- Final Statement of Reasons for Proposed Amendments to the California Consumer Products Regulation – Mid-Term Measures. July 1997. (ARB, 1997);
- Final Statement of Reasons for Proposed Amendments to the California Consumer Products Regulation. November 2006. (ARB, 2006); and
- Initial Statement of Reasons for Proposed Amendments to the California Consumer Products Regulations. August 2009. (ARB, 2009)

Also germane to the regulatory history pertaining to “Paint Thinner” and “Multi-Purpose Solvent” products, on March 6, 2009, the SCAQMD adopted Rule 1143. As allowed by State law, this rule established requirements specific to “Consumer Paint Thinner” and “Consumer Multi-Purpose Solvent” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD. This rule established VOC limits of 300 g/L, effective January 1, 2010, and 25 g/L, effective January 1, 2011. The categories were defined similarly to those in the Consumer Products Regulation.

b. Technical Assessment on the Feasibility of the 3 Percent by Weight VOC Standard

As specified in section 94513(g), manufacturers of liquid “Multi-purpose Solvent” and “Paint Thinner” products were required to submit detailed written updates on their research and development efforts undertaken to comply with the 3 percent VOC limit. At the time of the rulemaking, staff determined that more time was needed to develop technology to meet this limit, and the feasibility as to whether products formulated solely with exempt solvents, such as acetone, could be used to thin solvent-borne paints had not been demonstrated. The reports were to include sales and formulation data for products sold in 2011, as well as detailed information on the raw materials evaluated for use; MIR values for any VOC or LVP-VOC used or evaluated; the function of the raw material evaluated; testing protocols used; the results of the testing; and the cost of reformulation efforts. These reports were received in September 2012.

As part of the assessment, manufacturers of “Multi-purpose Solvent” and “Paint Thinner” products were asked to submit sales and formulation data on products that would meet the definition for either “Multi-purpose Solvent” or “Paint Thinner” but were sold in the aerosol form.

The 2011 sales of over 200 products from 17 companies were reported. Results of the assessment showed that 35 percent of products sold in 2011 were already complying with the upcoming 3 percent VOC limit. Many “Paint Thinner” products were meeting the limit of 3 percent through the use of exempt compounds, mainly acetone. Because manufacturers introduced these complying formulations early, and they have now been successfully sold for over two years, staff has concluded that the 3 percent VOC limit is feasible. The data also support that contrary to concerns as to whether acetone could be used to thin paints, it has been successfully sold for this function for over two years.

c. Issues to be Addressed

The expected benefits from ARB’s regulation of “Multi-purpose Solvent” and “Paint Thinner” products have not been fully achieved. This is primarily because some manufacturers of “Paint Thinner” products have used the current exemption provided for specialty thinners designed for use with “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings” to avoid compliance. Generic paint thinning products were simply relabeled as “Industrial Maintenance Coating” thinners and sold in locations where such specialty coatings were not sold.

Another concern is the introduction of aerosol forms of “Multi-purpose Solvent” and “Paint Thinner.” Adopted limits for “Multi-purpose Solvent” and “Paint Thinner” categories apply only to liquid product forms, as by definition these products are “liquids.” This means that aerosol forms are unregulated.

SCAQMD staff has also made us aware that their Rule 1143 is not fully achieving the expected benefits, and has asked for our assistance. This is primarily because manufacturers have taken advantage of an exclusion within their definition of “Multi-purpose Solvent.” The language is shown below:

“Multi-purpose Solvents” also do not include any products making any representation that the product may be used as, or is suitable for use as a consumer product which qualifies under another definition in California Code of Regulations title 17, § 94508 as of the date of adoption.”

This one sentence has allowed some manufacturers to circumvent Rule 1143 by including on the product label reference to an ARB regulated consumer product category. Examples of “Multi-purpose Solvent” and “Paint Thinner” labels are shown in Appendix H.

This language was apparently placed in Rule 1143 to be consistent with ARB's definition of "Multi-purpose Solvent" in ARB's Consumer Products Regulation. ARB's definition contains the following language, which is very similar to the problematic language in Rule 1143:

"... "Multi-purpose Solvent" does not include ... any product making any representation that the product may be used as, or is suitable for use as a consumer product which meets another definition in section 94508(a); such products are not "Multi-purpose Solvents" and are subject to the "Most Restrictive Limit" provisions of section 94512(a)."

However, the attempt to achieve consistency with ARB's Consumer Products Regulation has had unanticipated results because unlike Rule 1143, ARB's regulation includes a "Most Restrictive Limit" provision in section 94512(a). The relevant portions of section 94512(a) state:

"... if anywhere on the container or packaging of any consumer product ... any representation is made that the product may be used as, or is suitable for use as a consumer product for which a lower VOC limit is specified in section 94509(a), then the lowest VOC limit shall apply."

The purpose of the "Most Restrictive Limit" provision is to prevent product manufacturers from circumventing ARB's regulation by re-labeling their products. For example, a nonaerosol "General Purpose Degreaser" is currently subject to a 0.5 percent VOC limit in ARB's Consumer Products Regulation, whereas a "Bug and Tar Remover" is subject to a much less stringent 40 percent VOC limit. If a manufacturer makes a degreasing product containing 30 percent VOC and does not want to incur the expense of reformulating the product to meet a 0.5 percent VOC limit, the manufacturer might attempt to avoid reformulation by simply re-labeling the product as a "Bug and Tar Remover" while simultaneously representing on the product label that the product is also suitable for use as a "General Purpose Degreaser." The "Most Restrictive Limit" provision is designed to prevent such attempted circumvention by ensuring that a product claiming it may be used as a "General Purpose Degreaser" is subject to the lower 0.5 percent VOC limit for "General Purpose Degreasers," instead of the less stringent 40 percent VOC limit for "Bug and Tar Removers."

However, Rule 1143 does not have a "Most Restrictive Limit" provision; it is not needed because unlike ARB, the SCAQMD does not have numerous VOC standards for multiple consumer product categories. The result is that language in ARB's regulation that is designed to prevent circumvention is actually being used to circumvent the requirements of Rule 1143. For example, a product labeled on the principal display panel as "Odorless Mineral Spirits" which is clearly a "Multi-purpose Solvent" would include a reference that it is suitable for use as a "General Purpose Degreaser" in small font on the back panel of the label. This labeling then excludes such a product from being subject to Rule 1143 because it is making a claim for a category regulated by ARB. In other words, the above language in Rule 1143 has created an unanticipated

loophole; instead of reformulating their products to comply with the Rule 1143's VOC standards, some manufacturers have simply re-labeled their products so that the products are not subject to Rule 1143.

SCAQMD Rule 1143 also contains an exemption for thinners to be used with "Industrial Maintenance Coatings," "Zinc-Rich Primers," or "High Temperature Coatings." Similar to one of ARB's concerns, products sold in the SCAQMD have also taken advantage of this exemption.

Another related issue is products labeled as 'Alcohol' or 'Denatured Alcohol' that are sold in the paint thinning aisle, but again make a small reference to a consumer products category, such as "Glass Cleaner," and provide a dilution ratio consistent with the VOC limit for these products. Glass cleaning products are not typically sold alongside paint thinning products.

d. Proposed Solutions

We are proposing to modify the definitions for "Multi-purpose Solvent" and "Paint Thinner" such that all product forms of "Multi-purpose Solvent" and "Paint Thinner" products would meet the definition. Also within the definitions, we are proposing to strengthen the exemption criteria for "Industrial Maintenance Coating," "Zinc-Rich Primer," or "High Temperature Coating" thinning products. As proposed, thinners for "Industrial Maintenance Coating," "Zinc-Rich Primer," or "High Temperature Coating" products would continue to be exempt if the Responsible Party for these thinners also manufactures "Industrial Maintenance Coating," "Zinc-Rich Primer," or "High Temperature Coating" products for sale in California and the name or brand of these specialty coatings is stated on the label of the thinning product. In addition, within the current "Multi-purpose Solvent" definition, staff is proposing to exclude nonaerosol products sold in the SCAQMD from that part of the definition stating that products meeting another definition in section 94508(a) are not "Multi-purpose Solvent" products and are subject to the "Most Restrictive Limit" provisions of section 94512(a). This would mean that nonaerosol "Multi-purpose Solvent" products sold, supplied, offered for sale, or manufactured for use in the SCAQMD do not meet any other definition and the Most Restrictive Limit would not apply.

To further address the concerns raised by SCAQMD staff, we are proposing to add a new provision in ARB's regulation [see proposed subsection 94509(p)(4)(A)] that would specify that products sold, supplied, offered for sale, or manufactured for use in the SCAQMD that meet either the definition of "Multi-purpose Solvent" or "Paint Thinner" do not meet the criteria for any other consumer product category and do not qualify under a definition of any other consumer product category that is defined in section 94508(a), regardless of any representation made that the product may be used as, or is suitable for use as another category of consumer product that is defined in section 94508(a). This would mean that products meeting either of these definitions would not fall under any other consumer products category defined in section 94508(a), regardless of any representations that may be made on the product label, packaging, or elsewhere. The net effect of this would be to keep these products subject to Rule 1143 and its

requirements. This should prevent language derived from ARB's regulation from being interpreted to allow circumvention of Rule 1143, and should thus help insure that the expected emission reduction benefits from Rule 1143 are fully achieved.

Another proposal would establish statewide VOC limits and other requirements for aerosol "Multi-purpose Solvent" and "Paint Thinner" products in the Table of Standards. We would also modify the Table of Standards to specify requirements for nonaerosol "Multi-purpose Solvent" and "Paint Thinner" products sold outside of SCAQMD and refer the reader to section 94509(p)(4) for requirements for products sold in the SCAQMD. Table IV-3 displays the proposed Table of Standards excerpted from section 94509(a). For clarity it is not shown in strikeout and underline text.

Table IV-3
Proposed Standards for Paint Thinner and Multi-purpose Solvent Products

Product Category	Effective Date	VOC Standard (Percent by Weight)

Multi-purpose Solvent* aerosol - standard for all areas of the State -----	1/1/2016 -----	10 -----
nonaerosol - standards for the South Coast Air Quality Management District - standards for all other areas of the State =====	See section 94509(p)(4) 12/31/2010 12/31/2013 =====	30 3 =====
[*See sections 94509(b)(1), (m)(1), (n), and (p); 94512(a)(1), (a)(4) and (e); 94513(g); and 94515(j) for additional requirements that apply to Multi-purpose Solvent.] *****		
Paint Thinner* aerosol - standard for all areas of the State -----	1/1/2016 -----	10 -----
nonaerosol - standards for the South Coast Air Quality Management District - standards for all other areas of the State =====	See section 94509(p)(4) 12/31/2010 12/31/2013 =====	30 3 =====
[*See sections 94509(b)(1), (m)(1), (n), and (p); 94512(a)(1), (a)(4) and (e); 94513(g); and 94515(j) for additional requirements that apply to Paint Thinner. See section 94510(m) for an exemption that applies to Paint Thinner.] *****		

Revisions in the Table of Standards and section 94509(p)(4)(B) would reinforce that nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold in the SCAQMD are subject to both ARB’s and SCAQMD’s rules. In section 94509(p)(4)(B) we would specify VOC limits and analytical testing procedures to determine VOC content for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold in the SCAQMD that are consistent with the requirements in Rule 1143. Proposed sections 94509(p)(4)(B)(1) and (2) set forth the ARB’s limits for nonaerosol “Multi-purpose Solvent” and “Paint Thinner.” Compliance with these limits would be determined using procedures in Method 310. This means that the LVP-VOC exemption would apply. Section 94509(p)(4)(B)(3) would set forth the 25 g/L limit for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products available in the SCAQMD, effective January 1, 2015. In this case, the LVP-VOC exemption would not apply. Both the 25 g/L limit and the 3 percent by weight limit in section 94509(p)(4)(B)(2) will be applicable in the SCAQMD beginning January 1, 2015.

By including section 94509(p)(4), where the provisions for products sold in SCAQMD would be set forth, there would be no advantage to label products in a manner to avoid compliance with Rule 1143 because the requirements in ARB’s regulation would be the same (*i.e.*, both rules contain a 25 g/L limit). To reinforce the provision proposed in section 94509(p)(4)(A), staff is proposing to add within the “Most Restrictive Limit” provision [section 94512(a)(4)] language that states that nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold in SCAQMD are not subject to the “Most Restrictive Limit.”

Most of the definitional changes and requirements for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold in SCAQMD would become effective on the date the amended regulation becomes effective. This includes the proposal to modify the definition of “Multi-purpose Solvent” to exclude products sold in the SCAQMD from that part of the definition stating that products meeting another definition in section 94508(a) are not “Multi-purpose Solvent” products and are subject to the “Most Restrictive Limit” provisions of section 94512(a). The 25 g/L VOC limit, however, would become effective on January 1, 2015.

In addition, as a safety precaution, staff is proposing to extend until December 31, 2017, the existing safety labeling provisions that prohibit the sale of flammable or extremely flammable “Multi-purpose Solvent” and “Paint Thinner” products unless specifically labeled to warn the consumer of the potential hazard. The existing provision is scheduled to sunset on December 31, 2015. Extending this requirement would ensure that, should aerosol “Multi-purpose Solvent” and “Paint Thinner” products be reformulated to increase the product’s flammability, consumers would be notified, for a period of time that they may be purchasing a more flammable product that should be handled more carefully than previous products.

Section 94515(j) is proposed to set forth analytical testing procedures to determine compliance with the 25 g/L VOC limit for nonaerosol “Multi-purpose Solvent” or “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the

SCAQMD. The equation from Method 310 would be replicated to reinforce that in this case, the LVP-VOC exemption does not apply. However, to provide further consistency with SCAQMD analytical procedures, methyl esters with 17 or more carbon atoms would be considered exempt.

We are also proposing that the VOC limits for “Multi-purpose Solvent” and “Paint Thinner” would apply prior to any recommended dilution.

Specific to aerosol “Multi-purpose Solvent” and “Paint Thinner” products, the proposed amendments include:

- VOC limits of 10 percent by weight;
- prohibition on use of compounds with GWP values of 150 or greater;
- prohibition on use of methylene chloride, perchloroethylene, and trichloroethylene; and
- a 1 percent by weight “Aromatic Compound” content limit.

All of these provisions would become effective on January 1, 2016.

3. Category Description (aerosols)

Table IV-4 below summarizes the sales and emissions for aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products based on data from the “Multi-purpose Solvent” and “Paint Thinner” Technical Assessment (ARB, 2012). Because of overlapping functionality of the products, the data for aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products have been grouped.

Table IV-4
Multi-purpose Solvent and Paint Thinner Data

Product Form	Number of products	2012 Category Sales (tons per day)	2012 VOC Emissions (tons per day)*
Aerosol	10	0.18	<0.12

* Data are not adjusted for market coverage. Numbers are rounded.

Product Use and Marketing:

Aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products are used for paint clean-up of brushes, equipment, and tools; clean-up of overspray and splatter; or to remove contaminants or organic materials. Typical uses of these products include automotive bodywork, construction, home projects, and arts and crafts. Aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products are sold in auto parts stores, mass-merchandisers, hardware stores, and large home improvement centers.

Product Formulation:

Aerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products are solvent mixtures packaged with propellant(s). These products do not contain solids or resins. Typical VOC solvents that were reported include xylenes, toluene, and various hydrocarbon solvents. Exempt VOC solvents including acetone and parachlorobenzotrifluoride (PCBTf) were also reported. Hydrocarbon or CO₂ propellants are used to expel the product.

Proposed VOC Limits and Compliance:

As shown in Table IV-5, the proposed VOC limit for both aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products is 10 percent by weight, with an effective date of January 1, 2016. Products would also be limited to an “Aromatic Compound” content of 1 percent by weight.

Table IV-5
Multi-purpose Solvent and Paint Thinner

Product Form	Proposed VOC limit (weight percent)	Number of Complying Products	Complying Market Share (percent)	Emission Reductions (tons per day)*
Aerosol	10	0	0	0.10

*Numbers are rounded.

Table IV-5 also shows that no reported products currently comply with the proposed limit. However, we expect products to follow similar reformulation pathways identified for nonaerosol product forms in the 2009 rulemaking. The proposed limit is designed to be consistent with the 3 percent by weight VOC limits for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products, but with an allowance for use of a VOC propellant.

As these aerosol products are developed and emerge in the market, formulation options that can be used to meet the proposed limits include reducing the level of hydrocarbon propellant or using CO₂, replacing VOC solvents with exempt VOC solvents, or use of exempt VOC solvent emulsions or blends.

Based on the data collected, methylene chloride, perchloroethylene, or trichloroethylene is not currently used in these products. However, to prevent the use of methylene chloride, perchloroethylene, and trichloroethylene as products reformulate to comply with the proposed VOC limits, we are proposing to prohibit their use in aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products. The proposed prohibition would be specified in section 94509(m).

No products reported use of compounds with GWP values of 150 or greater. However, to prevent the use of exempt compounds with higher GWP values as products reformulate to comply with the proposed VOC limits, we are proposing a GWP limit of

150 for any chemical compound used in aerosol “Multi-purpose Solvent” and aerosol “Paint Thinner” products. The proposed GWP limit would be specified in section 94509(n).

The proposals to prohibit use of compounds with GWP values of 150 or greater; prohibit use of methylene chloride, perchloroethylene, and trichloroethylene; and limit “Aromatic Compound” content to no more than 1 percent by weight are consistent with the provisions for nonaerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products.

Another modification is proposed for the definition of “Paint Thinner.” As proposed the definition would include aerosol products that provide a seamless transition between finishes, except for “Uniform Finish Coating” products as would be defined in the Aerosol Coating Products Regulation. This means that “edge blending” products used in automotive finishing spot repairs that do not contain a pigment or resin would be a “Paint Thinner.” Similar functioning products containing a pigment or resin would be regulated as “Uniform Finish Coatings” within the Aerosol Coating Products Regulation.

Proposal to Address Product Flammability Concerns:

During the development of the “Multi-purpose Solvent” and “Paint Thinner” regulation proposal, stakeholders expressed their ongoing concerns regarding the flammability of low-VOC products such as those containing acetone. The current regulation contains a prohibition on sale of flammable or extremely flammable “Multi-purpose Solvent” and “Paint Thinner” products unless specifically labeled to warn the consumer of the potential hazard. However, this provision is scheduled to sunset on December 31, 2015, a year prior to the date when the proposed limits for aerosol “Multi-purpose Solvent” and “Paint Thinner” products would become effective. As described earlier, we believe one of the pathways manufacturers may take to meet the proposed VOC limits would be by replacing VOC solvents with exempt VOC solvents, or using exempt VOC solvent emulsions or blends. As a safety precaution, should aerosol “Multi-purpose Solvent” and “Paint Thinner” products be reformulated to increase the product’s flammability, we are proposing to extend until December 31, 2017, these safety labeling provisions. This proposal is designed to ensure the consumer is alerted of a potential change in formulation of these products which could present a fire hazard if used improperly.

B. Aerosol Coating Products

As part of this rulemaking ARB staff is proposing new and lower Reactivity Limits for Aerosol Coating Products. This section provides a brief history of the State’s regulation of aerosol coatings, describes the products, and sets forth our proposed amendments pertaining to this category.

1. Regulatory History

Amendments to the CCAA in 1993 specified that standards affecting the formulation and emissions of VOCs from aerosol paints be set solely by ARB. The statute further provided that ARB adopt limits that would result in a 60 percent reduction in VOC emissions by establishing interim and final limits. However, prior to the final limits becoming effective, ARB was to conduct an assessment on the commercial and technological feasibility of those limits.

In response to the statute, aerosol coatings were first regulated in 1995. Two tiers of VOC limits were adopted for six “General Coating” categories and 29 “Specialty Coating” categories. The regulation was designed such that all Aerosol Coating Products are regulated, including coatings used in industrial and commercial applications. Aerosol coatings are subject to the applicable “General Coating” category requirements unless the product meets all the criteria for a “Specialty Coating” category.

The first tier limits became effective January 1, 1996, and achieved a VOC reduction of three tons per day. The final limits were designed to achieve the required 60 percent emission reduction and were to become effective December 31, 1999. With the implementation of the second tier limits the regulation was expected to achieve a total VOC reduction of 18 tons per day.

In a 1998 rulemaking, the Board determined that the 60 percent reduction in emissions was not achievable and revised some of the VOC limits to address commercial and technological feasibility. As a result, VOC limits for 12 product categories were increased. The revised limits resulted in total VOC reductions of 12.6 tons per day, an overall 42 percent reduction. As part of that rulemaking, the Board directed staff to work with industry to evaluate a reactivity-based strategy to provide industry flexibility in meeting the VOC limits.

In 2000, the regulation was amended to establish Reactivity Limits based on the MIR scale. In that rulemaking, the Reactivity Limits were designed to achieve an equivalent emission reduction as would have been achieved if the VOC limits approved for adoption in 1998 had been fully implemented. The Reactivity Limits for the “General Coating” categories became effective June 1, 2002, and the limits for the “Specialty Coating” categories became effective January 1, 2003. The use of methylene chloride, perchloroethylene, and trichloroethylene in aerosol coatings was also prohibited. As part of this rulemaking, a new category for “Polyolefin Adhesion Promoter” was established and Tables of MIR Values were adopted (sections 94700-94701).

For further information on these rulemakings, the reader is referred to the following rulemaking documents:

- “Initial Statement of Reasons for a Proposed Statewide Regulation to Reduce Volatile Organic Compound Emissions from Aerosol Coating Products and Amendments to the Alternative Control Plan for Consumer Products.” (ARB, 1995);

- “Initial Statement of Reasons for the Proposed Amendments to the Regulations for Reducing Volatile Organic Compound Emissions from Aerosol Coatings, Antiperspirants and Deodorants, and Consumer Products.” (ARB, 1998); and
- “Initial Statement of Reasons for the Proposed Amendments to the Regulation for Reducing Volatile Organic Compound Emissions from Aerosol Coating Products and Proposed Tables of Maximum Incremental Reactivity (MIR) Values, and Proposed Amendments to Method 310, “Determination of Volatile Organic Compounds in Consumer Products.” (ARB, 2000)

2. Aerosol Coating Categories Description

Aerosol coating products are defined as pressurized coating products containing pigments or resins that are dispensed with a propellant. They are packaged in hand-held containers, or for use in equipment for ground traffic and/or marking applications.

In recognition of the various applications, solvent and resin needs, there are currently 36 types of products for which Reactivity Limits have been specified. Despite this there are many similarities among the various products.

a. Use and Marketing of Aerosol Coatings

Aerosol coatings are used by both professional and by do-it-yourself consumers. They are used for a number of applications, such as coating repairs, small coating jobs, field and construction site marking, and touch-up of marks and scratches in paintwork of automobiles, appliances, and machinery. Aerosol coatings are sold in a variety of retail outlets, including automotive supply stores, discount stores, paint stores, home improvement centers, hardware stores, arts and crafts stores, department stores and by catalogue. A brief description of the categories follows.

b. General Coating Categories

Clear Coatings

A “Clear Coating” product is defined as a coating which is colorless, contains resins but no pigments except flatting agents, and is designed and labeled to form a transparent or translucent solid film. Flatting agents (also called flatting pigments) may be included in the formulation to decrease the gloss without adding color to the film. Such flatting agents produce a flat or “satin” clear finish. The existing Reactivity Limit for “Clear Coatings” is 1.5 g O₃/g product.

Flat Coatings

A “Flat Coating” is an aerosol coating which has no gloss or is labeled as a flat paint. “Flat Coating” products (previously referred to as “Flat Paint Products”) are defined as “an “Aerosol Coating Product” which, when fully dry, registers specular gloss less than

or equal to 15 on an 85° gloss meter, or less than or equal to 5 on a 60° gloss meter, or which is labeled as a flat coating.” Specular gloss is a measure of the light reflected by the surface of a material (Intertek PTL, 2013). We are proposing to include in this category products that are dual function paint and primers. The existing Reactivity Limit for “Flat Coatings” is 1.2 g O₃/g product.

Fluorescent Coatings

A “Fluorescent Coating” is defined as a coating which converts absorbed incident light energy into emitted light of a different hue. These coatings are generally used when greater visibility is desired. They are used for craft and decorative applications and for marking hazards in the home and at the workplace. It should be noted that coatings packaged in containers designed to be used in an inverted or “upside-down” position for marking the ground are categorized as “Ground Traffic/Marking Coating” products. The existing Reactivity Limit for “Fluorescent Coatings” is 1.75 g O₃/g product.

Metallic Coatings

A “Metallic Coating” is defined as an aerosol coating which contains at least 0.5 percent by weight metallic pigment and is labeled as metallic, or with the name of a specific metallic finish such as gold, silver, or bronze.

There are two forms of “Metallic Coating” products. One form, the “leafing” “Metallic Coating” products, contains metal as the sole pigment in the coating. Leafing refers to the distribution of the metallic pigment within the coating. In leafing pigments, the metallic pigment is carried to the surface of the paint film during drying and gives the appearance of an almost continuous film of metal. These coatings are designed to create the impression that the object coated is composed of gold, silver, brass, copper, or aluminum.

The second form of “Metallic Coating” products is known as “nonleafing.” In nonleafing paints the metallic pigments do not form a continuous metallic layer on the surface of the coating. Rather, they are distributed within the paint film and produce a polychrome effect, when used in conjunction with semi-transparent colored pigments. The metallic pigment contained within the semi-transparent color causes the coating to sparkle. These colored metallic coatings are often formulated to exactly match automobile finishes, and therefore fall into the “Exact Match Finish, Automotive” category. However, there are some nonleafing metallic coatings that are not formulated as “Exact Match Finish” coatings. If these coatings have a metallic pigment content greater than 0.5 percent by weight, and are labeled metallic, or with the name of a specific metallic finish such as gold, silver, or bronze, then they are categorized as “Metallic Coating.” Otherwise, they are “Flat Coating” or “Nonflat Coating” products. Nonleafing “Metallic Coating” products generally have lower reactivity than leafing products. The existing Reactivity Limit for “Metallic Coating” is 1.90 g O₃/g product.

“Zinc-Rich Primers” (also called “galvanizing coatings”) may contain greater than 0.5 percent by weight metallic pigment, but are not classified as “Metallic Coating” products because they are not labeled metallic, or labeled with the name of a specific metallic finish. These coatings are used for rust prevention and are very different from the decorative topcoats in the “Metallic Coating” category.

We are proposing to include in this category products that are dual function paint and primer in one product.

Nonflat Coatings

A “Nonflat Coating” is a nonflat (or glossy) aerosol coating product which register a specular gloss level greater than 15 on an 85° meter, or greater than 5 on a 60° meter or which are labeled as “Nonflat Coating.” Aerosol paints labeled as “high gloss” paints do not qualify as a “Nonflat Coating” unless the specular gloss criteria indicated above are met. The existing Reactivity Limit for the aerosol “Nonflat Coating” category is 1.40 g O₃/g product. We are proposing to include in this category products that are dual function paint and primers.

Primers

A “Primer” is a coating, labeled as such, which is designed to be applied to a surface to provide a bond between that surface and subsequent coats. “Primer” products bond the substrate to subsequent coatings by providing a rough, slightly porous surface which adheres to both slick surfaces and glossy topcoats. The existing Reactivity Limit for “Primers” is 1.20 g O₃/g product.

“General Coatings” data are presented in Table IV-6. As shown in Table IV-6, sales of 27.4 tons per day of “General Coating” products resulted in 21 tons per day of ROC emissions with total OFP of 30.4 tons per day. Although not shown here, VOC emissions are 13.8 tons per day. Sales of “General Coating” products represent about 72 percent of total aerosol coating sales. Also, shown is the sales weighted average PWMIR (SWA-PWMIR) for each category.

c. Specialty Coating Categories

Among the proposed amendments are revised limits for “Specialty Coating” categories. Reactivity Limits for some categories are designed to provide additional reductions in OFP while others are designed to “cap” the OFP. We are further subdividing these coatings based on the effective dates of the limits. Those categories where reformulation would be required or where a previous Reactivity Limit did not exist are referred to as “Specialty Coating (A),” while those being “capped” are “Specialty Coating (B).”

**Table IV-6
General Coatings Data Summary**

Coating Category	Number of Products	Category Sales (tons per day)	ROC Emissions* (tons per day)	SWA-PWMIR** (g O ₃ /g product)	Total Ozone Forming Potential** (tons per day)
Clear Coating	304	2.53	2.09	1.03	2.60
Flat Coating	221	4.77	3.03	0.85	4.16
Fluorescent Coating	30	0.08	0.06	1.40	0.12
Metallic Coating	244	2.19	1.77	1.36	2.97
Nonflat Coating	880	14.25	11.51	1.20	17.13
Primer	237	3.61	2.52	0.93	3.37
Total		27.4	21		30.4

* Calendar year 2010 emissions adjusted for complete market coverage.

** 2010 MIR values

1. Specialty Coating Categories (A)

A brief description of “Specialty Coating (A)” categories is presented below. Part of the proposal would set forth definitions and requirements for several previously undefined categories, and other proposals would rescind the exemptions for several categories and establish Reactivity Limits. Descriptions of these categories are included here.

Auto Body Primers

An “Auto Body Primer” is an automotive primer or primer surface coating designed and labeled exclusively to be applied to a vehicle body substrate for the purposes of corrosion resistance and building a repair area to a condition in which, after drying, it can be sanded to a smooth surface. “Auto Body Primer” products also provide a protective coat over the substrate and help to prepare the surface for subsequent coats. They can fill in nicks, scrapes, scratches, etc., to the original level of the surface; prevent rust; be sanded or recoated; and are compatible with lacquer, acrylic, enamel, and other topcoats. These automotive products are generally labeled as sandable primers, spot filler and primers, primer surfacers, primer sealers, sanding primers, spray primers, and truck and van primers. The existing Reactivity Limit for “Auto Body Primer” is 1.55 g O₃/g product.

Exact Match Finish Coatings

Aerosol “Exact Match Finish” coatings are “Specialty Coating” products that are colored or colorless and are defined as follows:

“Exact Match Finish” is a coating which meets all of the following criteria: (A) the product is labeled with the manufacturer's name for which they were formulated; and (B) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser.

“Exact Match Finish” coatings include “Exact Match Finish, Automotive,” “Exact Match Finish, Engine,” and “Exact Match Finish, Industrial.” Each of these three categories must meet the definition of “Exact Match Finish” in addition to the applicable individual category definitions.

“Exact Match Finish, Automotive” is an “Aerosol Coating Product” which meets the definition of “Exact Match Finish” and is designed and labeled exclusively to exactly match the color of an original, factory-applied automotive coating during the touch-up of automobile finishes. However, automotive clear coatings designed and labeled exclusively for use over automotive exact match finishes to replicate the original factory applied finish are considered “Exact Match Finish, Automotive.” The existing Reactivity Limit for “Exact Match Finish, Automotive” is 1.50 g O₃/g product.

“Exact Match Finish, Engine” is an “Aerosol Coating Product” which meets the definition of “Exact Match Finish” and is designed and labeled exclusively to exactly match the color of an original, factory-applied engine paint. The existing Reactivity Limit for “Exact Match Finish, Engine” is 1.70 g O₃/g product.

“Exact Match Finish, Industrial” is an “Aerosol Coating Product” which meets the definition of “Exact Match Finish” and is designed and labeled exclusively to exactly match the color of an original, factory-applied industrial coating during the touch-up of manufactured products. The existing Reactivity Limit for “Exact Match Finish, Industrial” is 2.05 g O₃/g product.

Ground Traffic/Marking Coatings

“Ground Traffic/Marking Coating” products are used to apply striping or marking to outdoor surfaces such as streets, golf courses, parking lots, athletic fields, and construction sites. Paints included in this category are often labeled as traffic paints, marking paints, athletic paints, and marking chalk. The various labels refer to specific applications for which the products were designed. As an example, traffic paint is designed for durable marking of traffic lanes or parking lots, whereas athletic paint is primarily for temporary use at recreational sites such as golf courses or soccer fields. All of these paints are commonly referred to as “upside-down” paints because they are applied in an inverted spray position. These products are packaged with a valve and

actuator combination designed to be dispensed in an inverted position. All upside-down paints can be applied either by hand or with a striping device. A striping device typically is a wheeled dispenser into which the inverted aerosol can is mounted allowing the product to be held close to the substrate and easily actuated by a trigger or button on the handle of the device. "Ground Traffic/Marking Coating" products come in many different colors, including fluorescent colors, and are available as water- and solvent-based formulations. The existing Reactivity Limit for "Ground Traffic/Marking Coating" is 1.20 g O₃/g product.

Electrical/Electronic/Conformal Coatings

An "Electrical Coating" is defined as a coating designed and labeled exclusively as such, which is used exclusively to coat electrical components such as wire windings on electric motors to provide insulation and protection from corrosion. "Electrical Coating" products are currently exempt.

We are proposing to rescind the exemption and modify the definition to include electronic and conformal coatings such as terminal protectors, insulating materials, electrical wire coatings, and insulator varnishes. These products are similar to electrical coatings. These definitional changes expand the scope of the category and the variety of uses for these products. We are also proposing to set a Reactivity Limit for the "Electrical/Electronic/Conformal Coating" category.

Flexible Coatings

"Flexible Coating" products are not currently defined. As such, these products would most likely be subject to either the requirements for "Flat Coating" or "Nonflat Coating" product categories. However, because these products were not considered when the original limits were set, we have not enforced these requirements. We are now proposing to define these products and establish a Reactivity Limit for this category.

As proposed, "Flexible Coating" would be defined as a flexible coating to protect surfaces. The category includes rubberized, mastic, and asphaltic products. Some of these products can provide the function of an "Undercoating" to provide corrosion protection or deaden sound on vehicular substrates. "Undercoating" products are defined and regulated in the Consumer Products Regulation. To distinguish the two categories, "Flexible Coating" products would include products that claim to be suitable for use as an "Undercoating," but make claims for additional uses. In the Consumer Products Regulation, the definition for "Undercoating" would be amended to specify that these products are designed solely for use on vehicles to prevent rust or deaden sound.

Mold Release Coatings

"Mold Release Coating" is currently defined as a coating applied to molds to prevent products from sticking to the surfaces of the mold. Currently, these products are

exempt. Staff has determined that an exemption is no longer needed and is proposing a Reactivity Limit for the “Mold Release Coating” category.

Two Component Coatings

“Two Component Coating” products have not been previously defined in the Aerosol Coating Products Regulation. These coatings include two parts-a base and a hardener, catalyst or activator. “Two Component Coating” products are packaged in an aerosol container with a separate integrated chamber for the hardener or activator. “Two Component Coating” products can be clear, colored coatings, or primers that contain resins, pigments, fillers or flattening agents. Flattening agents (also called flattening pigments), may be included in the formulation to decrease the gloss of these coatings to produce a flat, or satin finish.

Staff is proposing to set a Reactivity Limit for this category.

Uniform Finish Coatings

“Uniform Finish Coating” products have not been previously defined in the Aerosol Coating Products Regulation. Staff is proposing a new definition to clarify that a “Uniform Finish Coating” is an “Aerosol Coating Product.”

“Uniform Finish Coating” products are used to blend or conceal a paint repair. Sometimes referred to as edge blenders, the product is used where spot repairs to a painted finish are being performed. Typically a coating repair results in an interface between the existing cured coating and the freshly applied coating. If this interface is not treated, a dry edge will be visible after the fresh coating cures. A “Uniform Finish Coating” dissolves the edges of previous coatings, e.g., primer, sealer, color coat or clear coat to provide a blended or soft edge to a coating repair.

Some products currently labeled as ‘edge blenders’ do not contain resins. Such products would not meet the definition of “Uniform Finish Coating” and we are proposing that these products be regulated under the Consumer Products Regulation “Paint Thinner” category.

“Specialty Coating (A)” data are presented in Table IV-7 below. As shown in Table IV-7, sales of 7.8 tons per day of the “Specialty Coatings (A)” categories resulted in 4.9 tons per day of ROC emissions with total OFP of 8.2 tons per day. Although not shown here, VOC emissions are 3.9 tons per day. Sales of “Specialty Coatings (A)” represent about 20 percent of total aerosol coating sales. Also, shown is the SWA-PWMIR for each category.

2. Specialty Coating Categories (B)

“Specialty Coating (B)” categories are small categories of coatings. In these categories staff has determined that reductions are not cost effective, and is proposing to “cap” the

**Table IV-7
Specialty Coatings (A) Data Summary**

Coating Category	Number of Products	Category Sales (tons per day)	ROC Emissions* (tons per day)	SWA-PWMIR** (g O ₃ /g product)	Total Ozone Forming Potential** (tons per day)
Auto Body Primer	70	1.0	0.75	1.16	1.16
Exact Match Finish: Automotive	227	0.44	0.39	1.12	0.49
Exact Match Finish: Engine	63	0.43	0.36	1.12	0.48
Exact Match Finish: Industrial	179	0.28	0.22	1.13	0.31
Ground Traffic/ Marking	237	5.27	2.90	1.05	5.54
Electrical/ Electronic/ Conformal	33	0.03	0.03	0.89	0.03
Flexible	18	0.13	0.08	1.13	0.15
Mold Release	51	0.19	0.18	0.42	0.08
Two Component	21	0.00	0.00	0.72	0.00
Uniform Finish	<5	<0.1	<0.1	1.30	<0.05
Total		7.8	4.9		8.2

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded.

** 2010 MIR values

OFP. Table IV-8 summarizes the combined sales and emissions from the “Specialty Coating (B)” categories based on the results of the data collected from the 2010 Survey (ARB, 2011).

As shown in Table IV-8, the “Specialty Coating (B)” categories contain 905 products with sales of 2.9 tons per day. These products have estimated ROC emissions of about 2.4 tons per day with total OFP of 3.4 tons per day. Although not shown here, VOC emissions are 1.6 tons per day. Sales of “Specialty Coating (B)” categories represent about 8 percent of total aerosol coating sales.

**Table IV-8
Specialty Coatings (B) Data Summary**

Coating Category	Total # of Companies	Total # of Products	Sales (tons per day)	Total ROC Emissions* (tons per day)	Total Ozone Forming Potential** (tons per day)
Specialty Coating (B) Categories	64	905	2.9	2.4	3.4

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded.

** 2010 MIR values

d. Formulation of Aerosol Coatings

Aerosol coating products are formulated as both solvent-based and water-based formulations with sales of solvent-based formulations dominating the market. The solvents and propellants used in general and specialty coating categories are generally similar. Aerosol coating products consist of pigments, resins, solvents, propellants, and other additives that are used to achieve specific properties. Hydrocarbon propellants consisting of a liquefied mixture of propane, normal butane, and isobutane are the most commonly used propellants. Water-based coating formulations typically contain dimethyl ether as a propellant.

Typical solvents in solvent-based products include petroleum distillates; aromatic hydrocarbons, primarily toluene and mixed xylenes; ketones (e.g. acetone, methyl ethyl ketone, methyl isobutyl ketone); esters (e.g. ethyl acetate, butyl acetates); alcohols (e.g. ethanol, isopropanol); glycol ethers (e.g. propylene glycol monomethyl ether acetate) and others. Typical solvents in water-based products include water, alcohols, glycol ethers, and other water miscible solvents. The selection of the appropriate solvent depends on the resin system type, particular pigments and additives, final use of the coating, application technique, and curing processes.

For proper film formation, aerosol coatings are formulated with a combination of fast, medium, and slower evaporating solvents. The evaporation rate of a solvent is compared relative to a standard, commonly n-butyl acetate, with the evaporation rate of n-butyl acetate set equal to 1.0. ROCs with evaporation rates less than 0.8, such as water (0.3) or xylenes (0.6) are classified as slow evaporating. Medium and fast evaporating ROCs are categorized by having evaporation rates of >0.8 to 3.0; and >3.1, respectively. Acetone and methyl acetate are examples of fast evaporating solvents and are used in high/low solvent systems where fast solvent release and quick dry-to-touch time are needed. Toluene and isopropyl alcohol are examples of medium evaporating solvents. Glycol ethers are classified as medium to slow evaporating solvents with evaporation rates from 0.7 to <0.001. They are typically the last components out of a curing film.

Aromatic hydrocarbon solvents are typically used to assist in dissolving a wide variety of resins and prevent cracking of the finished coating film. Some coating systems need

higher amounts of aromatic solvent due to the high viscosity of the aerosol paint formulation, for example, coatings using acrylic, nitrocellulose, or asphaltic resins.

The nonreactive portion of an aerosol coating product consists of the film forming ingredients such as pigments, resins, extenders, and other nonvolatile ingredients. Together, they are referred to as “Coating Solids” in aerosol coating formulations. The primary purpose of pigments is to provide the aesthetic properties of aerosol paint such as color, sheen, and opacity. Pigments also help to impart durability and in some cases, add special properties to the coating, for example, resistance to ultraviolet light exposure or corrosion resistance. Examples of more common pigments include titanium dioxide, carbon black, and iron oxides.

Forming a solid film, protecting substrates through chemical and physical action, and binding the pigments to the substrate are functions of a group of various naturally occurring or synthetic compounds referred to as “Resin.” A variety of resin types are used, including alkyds, polyurethanes, acrylic and nitrocellulose lacquers. Although coating properties vary with individual formulations, certain resin types generally yield particular coating characteristics. For example, polyurethane resins generally yield coatings that are hard and resistant to scratches and abrasion, while acrylic lacquers are known for their resistance to “yellowing.” In addition, extenders are added to increase the coating solids content.

Various additives are also included in aerosol coating formulations to address specific problems or enhance coating properties. Additives are usually present in small quantities. Some of the commonly used additives in aerosol coatings include anti-settling agents to prevent the settling of pigments during product storage, driers to speed up the chemical reaction occurring during the drying of the coating, and plasticizers to improve the flexibility and adhesion of the coating film. To prevent microbial growth and product spoilage, which is especially important for water-based formulations, antimicrobial compounds are added. Surfactants are used to enable suitable mixing of oil and water phases, disperse solids, or enable wetting of surfaces.

e. Proposed Reactivity Limits

The proposed Reactivity Limits for the “General Coating” categories along with relevant data are presented in Table IV-9. As proposed, the limits for the “General Coating” categories would be effective January 1, 2017. The proposed Reactivity Limits are based on staff’s review of the data collected in the 2010 Survey as well as review of existing coating technologies.

**Table IV-9
General Coatings Proposals⁺**

Coating Category	Proposed PWMIR Limit	Number of Complying Products	Complying Market Share (percent)	Equivalent VOC Reduction* (tons per day)
Clear Coating	0.85	69	33	0.4
Flat Coating	0.80	57	28	0.4
Fluorescent Coating	1.30	9	22	>0
Metallic Coating	1.25	95	47	0.2
Nonflat Coating	0.95	118	12	1.7
Primer	0.70	34	33	0.4
Total				3.1

⁺ 2010 MIR values

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded

As shown in Table IV-9, the complying market share ranges from 12 percent for the “Nonflat Coating” category to 47 percent for the “Metallic Coating” category. These market shares, along with the numbers of complying products, provide a clear indication that the proposed limits are technically and commercially feasible. The proposed Reactivity Limits for the “General Coating” categories would result in about 3.1 tons per day of equivalent VOC reductions.

The proposed Reactivity Limits for the “Specialty Coating (A)” categories along with relevant data are presented in Table IV-10. As proposed, the limits for the “Specialty Coating (A)” categories would be effective January 1, 2017. As shown in Table IV-10, the “Exact Match Finish, Automotive” and “Exact Match Finish, Engine” have low complying market shares. However, industry has concurred that the proposed limits are feasible. The complying market share for the “Auto Body Primer” is also relatively low, but as with the “Exact Match Finish, Automotive” and “Exact Match Finish, Engine” industry concurs that the proposed limit is feasible. The proposed limits for the other categories have relatively high complying market shares, which indicate that the limits are feasible. The proposed limits for the “Specialty Coatings (A)” categories would result in about 0.6 tons per day of equivalent VOC reductions.

**Table IV-10
Specialty Coatings (A) Proposals***

Coating Category	Proposed PWMIR Limit	Number of Complying Products	Complying Market Share (percent)	Equivalent VOC Reduction* (tons per day)
Auto Body Primer	0.95	17	9	0.10
Electrical/ Electronic/Conformal	2.00	27	95	>0
Exact Match Finish, Automotive	0.95	<5	~0	0.03
Exact Match Finish, Engine	0.95	<5	20	0.05
Exact Match Finish, Industrial	1.20	94	42	0.02
Flexible Coating	1.60	17	99	0
Ground Traffic/ Marking Coating	0.85	73	35	0.35
Mold Release Coating	1.10	51	100	0
Two Component Coating	1.20	21	100	0
Uniform Finish Coating	1.30	<5	100	0
Total				0.6

* 2010 MIR values

* Calendar year 2010 emissions adjusted for complete market coverage. Numbers are rounded

For the 23 Specialty Coating categories listed in Table IV-11 we are proposing to set the limit as low as possible without requiring reformulation. In general, this results in lower limits than those currently in effect. These “cap” limits are proposed because most of these categories have emissions of less than 0.1 ton per day. Only very minimal reductions could be achieved by requiring these categories to reformulate, and it would not be cost effective. More information on these categories is provided in the staff report for the 1995 rulemaking (ARB, 1995).

In an effort to streamline the Aerosol Coating Products Regulation and to better describe the types of products regulated in several categories, several name changes and category consolidations are proposed. The “Slip-resistant” category would be modified to include non-slip grip coatings, the “Spatter/Multicolor Coating” category would be modified to include stucco coatings, and the “Vinyl/Fabric/Leather/Polycarbonate Coating” category would be modified to include all plastic coatings, not just polycarbonate plastic coatings. Name changes are reflected in the Table IV-11. The definitions would also be modified to describe the expanded categories. The proposed modified definitions are shown below:

“Slip resistant/Non-slip Grip Coating” means an “Aerosol Coating Product” (A) designed and labeled exclusively as a slip-resistant coating, which is formulated with grit and used as a safety coating; or (B) labeled exclusively as a non-slip grip coating designed to reduce or prevent slipping.

“Spatter/Multicolor/Stucco Coating” means an “Aerosol Coating Product” (A) labeled exclusively as a spatter coating which produces spots, globules, or spatters of individual or contrasting colors on or within the surface of a contrasting or similar background; or (B) labeled exclusively as a multicolor coating; or (C) labeled exclusively as a stucco coating that is made from a mixture of Portland cement, sand, and lime.

“Vinyl/Fabric/Leather/Plastic Coating” means an “Aerosol Coating Product” (A) designed and labeled exclusively to coat vinyl, fabric, leather, or plastic substrates; or (B) designed and labeled exclusively to repel water from fabric or leather substrates. “Vinyl/Fabric/Leather/Plastic Coating” does not include “Fabric Protectant” as defined in section 94508(a).

Note that our proposal for “Vinyl/Fabric/Leather/Plastic Coatings” would expand the category by including aerosol forms of waterproofing products.

The proposed “cap” Reactivity Limits for these “Specialty Coating (B)” categories are listed in Table IV-11. They are in a separate table to indicate an earlier proposed effective date of January 1, 2015.

As shown in Table IV-11, “Shellac Sealer” and “Hobby/Model/Craft Coating” subcategories would be consolidated with one limit proposed for each category. This streamlining would apply to both the existing 2003 limits and the future 2015 limit. The existing limits would be changed to the highest subcategory limits for “Hobby/Model/Craft Coating” and “Shellac Sealer” coatings of 2.70 g O₃/g product and 1.00 g O₃/g product, respectively.

This proposal, if all of the products in these categories were to reformulate, would result in no more than an equivalent VOC increase of 0.1 tons per day for the several months from the date the amendments would be approved until January 1, 2015. However, this is unlikely to occur as all of the products reported are already in compliance with the proposed 2015 Reactivity Limit.

**Table IV-11
Proposed Reactivity Limits for Specialty Coatings (B)**

Aerosol Coating Category	PWMIR* (g O₃/g Product)	PWMIR+ (g O₃/g Product)
Specialty Coatings (B)	01/01/2003	01/01/2015
Art Fixative or Sealant	1.80	1.75
Automotive Bumper and Trim Product	1.75	1.70
Aviation or Marine Primer	2.00	1.25
Aviation Propeller Coating	2.50	1.40
Corrosion Resistant Brass, Bronze, or Copper Coating	1.80	1.80
Floral Coating	1.70	0.85
Glass Coating	1.40	1.35
High Temperature Coating	1.85	1.85
Hobby/Model/Craft Coating:	2.7	1.60
Enamel	1.45	
Lacquer	2.70	
Clear or Metallic	1.60	
Marine Spar Varnish	0.90	0.90
Photograph Coating	1.00	0.75
Pleasure Craft Finish Primer/ Surfacer/ Undercoater	1.05	0.90
Pleasure Craft Topcoat	0.60	0.60
Polyolefin Adhesion Promoter	2.50	2.50
Rust Converter		1.10
Shellac Sealer:	1.00	1.00
Clear	1.00	
Pigmented	0.95	
Slip-Resistant/Non-Slip Grip Coating	2.45	2.10
Spatter/Multicolor/Stucco Coating	1.05	1.05
Vinyl/Fabric/Leather/Plastic Coating	1.55	1.45
Webbing/Veiling Coating	0.85	0.75
Weld-Through Primer	1.00	1.00
Wood Stain Coating	1.40	0.90
Wood Touch-Up/Repair/Restoration Coating	1.50	1.45

* Based on 2001 MIR Values

+ Based on 2010 MIR Values

f. Reformulation Strategies

Aerosol coating manufacturers would have to conduct research and develop formulations that meet the proposed Reactivity Limits, while ensuring that the reformulated coatings have the acceptable performance characteristics consumers expect. Our evaluation of the coating categories shows that in general there are complying products being sold and that a variety of reformulation options are available.

Thus, we believe that the proposed Reactivity Limits are commercially and technologically feasible.

Reformulation options that can be used by manufacturers to meet the proposed Reactivity Limits include the substitution of higher-reactive solvents and propellants currently used in noncomplying products with lower-reactive solvents and propellants. The currently used hydrocarbon propellant blends are moderately reactive. However, because the propane MIR value of 0.49 g O₃/g VOC is considerably lower than that of normal butane (1.15 g O₃/g VOC) or isobutane (1.23 g O₃/g VOC), using a propellant blend with higher propane content remains an effective option to reduce the product's overall reactivity.

Coating film integrity and application are affected by the types of solvents used. In substituting solvents with lower MIR values for those with higher MIR values formulations must maintain the proper balance of slower and faster evaporating solvents. The solvent system also needs to dissolve the resin and hold it in solution.

A literature review shows that various reformulation options are available. Depending upon the resin system used, reformulation options include use of n-butyl acetate, isobutyl acetate, n-propyl propionate, isobutyl butyrate and other esters; ketones; and glycol ethers. These solvents most likely would not be used on a one-to-one by mass substitution for the highly reactive solvents, but rather would be used in various combinations to provide the required balance of solvency and evaporation rate (Eastman, 2006, 2006a, 2009; Thermo Scientific, 2009; Exxon Mobil, 2010; Total Special Fluids, 2010). Some examples are discussed below.

Increased use of acetone was advocated as a likely reformulation option to meet the existing Reactivity Limits. Because of its low reactivity (MIR 0.36 g O₃/g VOC), acetone continues to be a possible reformulation option. However, there is a limit to the amount of acetone that can be used in a formulation because its fast evaporation rate can cause defects such as bubbles, pinholes, or "blushing" (a surface haze caused by condensation of moisture.) Methyl acetate is another fast evaporating solvent with properties similar to acetone and could be used for a broad range of coating resins. Because its reactivity (MIR 0.07 g O₃/g VOC) is significantly lower than that of acetone, using this solvent or substituting part of the acetone content with methyl acetate will effectively reduce the product's overall reactivity.

However, to efficiently reduce the overall reactivity of the aerosol coating product, lower reactive substitutes would be needed for the medium and slower evaporating solvents such as toluene and mixed xylenes. These aromatic ROCs are also among the most reactive ingredients used in aerosol coatings. The existing limits resulted in reducing the amounts of toluene and xylenes used, and we expect the proposed limits will require further reductions of these solvents.

One of the possible replacements for commonly used aromatic hydrocarbon solvents is n-propyl propionate. This medium evaporating solvent dissolves a wide range of

polymers and provides good flow and leveling in air dry and thermoset coatings. A replacement blend can be developed by substituting n-propyl propionate for xylenes and adjusting the overall blend composition to obtain the desired evaporation rate. Other examples are n-butyl acetate and isobutyl acetate which have lower evaporation rates and could be also used to reformulate the coating solvent blend. Medium evaporating cycloaliphatic solvents could be substituted for toluene. While acetone has a very different volatility and solvency power than toluene, a solvent such as methyl cyclohexane has similar properties as toluene. Literature also suggests that xylenes can be effectively replaced by a blend of methyl cyclohexane, n-butyl acetate, and methyl ethyl ketone. Methyl n-propyl ketone is an alternative for use alone or in combination with other solvents such as methyl acetate to replace methyl ethyl ketone.

Hydrocarbon solvents (HCS) are complex mixtures of alkanes, branched alkanes, cycloalkanes, and aromatic compounds that are used in aerosol coatings. The composition of HCS varies widely and determines their reactivity. The amount of aromatic compounds in these solvents ranges from near zero to 100 percent. Typical blends of HCS have aromatic compound contents of 2 to 8 percent or 8 to 22 percent. Therefore, it may be feasible to substitute HCS with lower aromatic compound content for those with higher aromatic content.

The reactivity of aerosol coatings could also be lowered through the use of water-based formulations, such as water-soluble alkyd systems, or acrylic lacquers.

The reformulation options discussed here have been used in developing the example complying product formulations. Through evaluation of formulations of complying and noncomplying products reported in the 2010 Survey, staff has determined that complying products contain less of the aromatic compounds toluene and xylenes. These complying products also support that further reducing toluene and xylenes is a feasible approach to complying with the proposed limits. Appendix I contains “generic” complying and noncomplying formulations for each category proposed for regulation.

V. Environmental Impacts Analysis

A. Introduction

This chapter provides an environmental analysis for the proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of MIR Values, Method 310, and proposed repeal of the Hair Spray Credit Program. Based on ARB's review, staff has determined that implementing the proposed amendments to these regulations would not result in any potentially significant adverse impacts on the environment. This analysis provides the basis for reaching this conclusion. This chapter of the Staff Report also discusses environmental benefits expected from implementing the proposed amendments.

B. Environmental Review Process

The Air Resources Board is the lead agency for the proposed amendments and has prepared this environmental analysis pursuant to its regulatory program certified by the Secretary of the Natural Resources Agency (14 CCR 15251(d); 17 CCR 60005-60007). In accordance with Public Resources Code section 21080.5 of the CEQA, public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to preparing environmental impact reports, negative declarations, and initial studies (14 CCR 15250). ARB has prepared this environmental analysis to assess the potential for significant adverse and beneficial environmental impacts associated with the proposed amendments, as required by ARB's certified regulatory program (17 CCR 60005(b)). The resource areas from the CEQA Guidelines Environmental Checklist were used as a framework for assessing the potential for significant impacts (17 CCR 60005(b)).

If comments received during the public review period raise significant environmental issues, staff will summarize and respond to the comments in the Final Statement of Reasons prepared for the proposed amendments to the regulations. If the amendments are adopted, a Notice of Decision will be posted on ARB's website and filed with the Secretary of the Natural Resources Agency for public inspection (17 CCR 60007(b)).

C. Prior Environmental Analysis

The Antiperspirants and Deodorants, Consumer Products and Aerosol Coating Products Regulations were first approved for adoption in 1989, 1990 and 1995, respectively. The regulations have been amended numerous times resulting in adoption of VOC limits for 129 different categories. In each rulemaking an

environmental analysis was conducted to determine whether any adverse environmental impacts would result from the amendments. Overall these analyses determined that the amendments designed to reduce VOC emissions, along with mitigation measures, would have positive impacts on the environment. VOC emissions have been reduced by about 209 tons per day, an approximate 50 percent reduction. Toxic emissions of chlorinated compounds have been reduced by over 13 tons per day by prohibiting their use in 83 categories. Other measures have prohibited the use of compounds with higher GWP values in a number of categories. Aromatic compound use has been limited to no more than 1 percent by weight in “Paint Thinner” and “Multi-purpose Solvent” products. Alkylphenol ethoxylate surfactant use has also been prohibited in several cleaning product categories. The most recent environmental analyses conducted for the 2010 and 2012 rulemakings did not identify any adverse impacts and determined that consumer product VOC emissions would continue to decline.

Specific to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products, an environmental analysis conducted in 2009 identified a potential flammability hazard as products are reformulated to comply with the VOC limits. To address this potential hazard, the sale of flammable or extremely flammable products was prohibited unless the products were properly labeled to warn the consumer of the increased flammability hazard. This prohibition was developed along with, and endorsed by, the Office of the State Fire Marshal. This provision is scheduled to sunset on December 31, 2015. For more information related to this provision refer to the “Initial Statement of Reasons for Proposed Amendments to the California Consumer Products Regulation, August 7, 2009” (ARB, 2009).

The Hairspray Credit Program was approved for adoption in 1997. The primary purpose of this voluntary program was to set forth a process to encourage early and/or over compliance with the VOC standard for Hairspray products. An environmental assessment determined there were no adverse environmental impacts associated with this program and that it would likely have an environmental benefit.

The Tables of MIR Values were first approved for adoption in 2000 and have been amended several times, most recently in 2010. ARB Method 310 was first approved for adoption in 1996 and has also been amended numerous times, most recently in 2011. Environmental assessments conducted as part of these rulemakings determined that the amendments would not result in any adverse environmental impacts because the requirements would not lead to a physical change in the environment.

D. Proposed Amendments

1. Description

The consumer products program has been and continues to be an important part of California's overall efforts to reduce the amount of smog-forming VOCs, TACs, and GHGs that are emitted from the use of chemically formulated consumer products. In this proposed rulemaking, further amendments are intended to lower the impacts of consumer products' VOC emissions, improve clarity, aid in implementation, and streamline current procedures.

ARB staff is proposing to amend the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation and the Aerosol Coating Products Regulation, repeal the Hairspray Credit Program, and revise the Tables of MIR Values and Method 310. A brief summary of each amendment is provided below. Please refer to Chapter VIII of this Staff Report for a more detailed description of each of the proposed amendments and rationale.

a. Antiperspirants and Deodorants

ARB staff is proposing to exempt HFO-1234ze from the definition of VOC in the Antiperspirants and Deodorants Regulation. This would provide an additional reformulation option to manufacturers of antiperspirants and deodorants.

b. Consumer Products

ARB staff is proposing to amend the Consumer Products Regulation primarily to clarify regulatory requirements to improve its implementation and enforcement. A further reduction in VOC emissions from several categories is also proposed. Other amendments would streamline the regulation. The proposed amendments would:

- specify new or lower VOC limits for "Mist Spray Adhesive," "Screen Printing Adhesive," and "Web Spray Adhesive" categories to provide 0.3 tons per day of VOC emission reductions and prohibit the use of compounds with GWP values of 150 or greater in these aerosol adhesive categories;
- modify provisions for "Multi-purpose Solvent" and "Paint Thinner" that would:
 - modify existing definitions to include the aerosol form of products in these categories;
 - strengthen requirements for products to qualify as "Industrial Maintenance Coating," "Zinc-Rich Primer," and "High Temperature Coating" thinners;
 - specify new statewide mass-based VOC limits, along with the limit for total aromatic compound content, for the aerosol form of "Multi-purpose Solvent" and "Paint Thinner" products to provide a 0.1 tons per day VOC emission reduction in these categories;

- specify new mass-based VOC limits for the nonaerosol form of “Multi-purpose Solvent” and “Paint Thinner” products sold specifically in the SCAQMD;
 - extend until December 31, 2017, provisions related to prohibition of sale of flammable or extremely flammable products unless specifically labeled to warn the consumer of the potential hazard [the extension is primarily due to the proposal to regulate aerosol forms]; and
 - specify a GWP limit of 150 for aerosol “Multi-purpose Solvent” and “Paint Thinner.”
- modify existing definitions and add new definitions to help clarify the regulation and improve its enforceability;
 - delete expired definitions and other expired provisions;
 - extend the 10 percent by weight VOC limit effective date from December 31, 2015 to December 31, 2018 for “Multi-purpose Lubricants;”
 - exempt HFO-1234ze from the definition of VOC; and
 - prohibit the use of the TACs methylene chloride, perchloroethylene, and trichloroethylene in “Single Purpose Cleaner,” “Single Purpose Degreaser,” “Screen Printing Adhesive,” and aerosol “Multi-purpose Solvent” and “Paint Thinner” categories.

c. Aerosol Coatings

The proposed amendments to the Aerosol Coating Products Regulation are primarily designed to lower the OFP of aerosol coating emissions. Ozone forms when emissions of VOCs and nitrogen oxides react in the presence of sunlight; therefore, less reactive VOCs help reduce ozone formation. The term “reactivity” here refers to a substance’s tendency to undergo a chemical change -- in this case, a VOC’s potential to form ground-level ozone. Other provisions would provide clarity and improve various regulatory requirements. Proposals to delete expired provisions would also streamline the regulation. The proposed amendments would:

- specify lower Reactivity Limits to provide a 3.7 tons per day VOC equivalent emission reduction;
- align product dating and reporting requirements with the Consumer Products Regulation;
- add, clarify, or align definitions with the Consumer Products Regulation;
- clarify assignment of MIR values;
- add a provision to clarify the analytical/compliance process; and
- delete mass-based VOC requirements and other expired provisions.

d. Hairspray Credit Program

ARB staff is proposing to repeal the expired Hairspray Credit Program. The ability to generate Hairspray Emission Reduction Credits (HERC) ended on January 1, 2005, and the ability to use HERCs ended on January 1, 2010. Therefore, this regulation is no longer needed.

e. Method 310

ARB staff is proposing procedural changes to Method 310 that would improve analysis of consumer products and aerosol coatings for compliance. Specific testing procedures to analyze for “Multi-purpose Solvent” and “Paint Thinner” products sold in the SCAQMD are also being proposed.

f. Tables of MIR Values

Proposed amendments to the Tables of MIR Values would reorganize the oxygenated solvents section of the tables by placing them into chemical classes, as opposed to the current organization which is by carbon number.

2. Methods of Compliance

Many of the proposed amendments to the regulations consist of administrative and procedural changes that will clarify existing definitions, modify provisions to facilitate implementation and compliance, and streamline the regulations by deleting expired provisions. The proposed amendments that will reduce VOC emissions from several consumer product categories or lower the OFP of aerosol coatings will require a compliance response (*i.e.*, noncomplying products will need to be reformulated), and are discussed further below.

a. Antiperspirants and Deodorants

Proposing to exempt HFO-1234ze from the definition of VOC in the Antiperspirants and Deodorants Regulation is procedural in nature and would provide an additional reformulation option to manufacturers of antiperspirants and deodorants. There would be no additional compliance response expected from the regulated community.

b. Consumer Products

Noncomplying “Mist Spray Adhesive,” “Screen Printing Adhesive,” and “Web Spray Adhesive” products will need to be reformulated to comply with new or lower VOC limits. Manufacturers have the flexibility to choose the most cost-effective reformulation option for their products. However, the most likely reformulation pathways will be to replace, or partially replace, VOC solvents or propellants with non-VOC ingredients. This may require using one or more exempt solvents, increasing product solids, developing water-based technology, or formulating with a non-VOC propellant.

A VOC limit of 10 percent by weight, along with a 1 percent aromatic compound limit, is being proposed for aerosol “Multi-purpose Solvent” and “Paint Thinner” products. Manufacturers are expected to employ the same reformulation options as those used to reformulate nonaerosol products to meet the 3 percent VOC limit coming into effect in December 2013, with the addition of a propellant. To comply with these requirements, manufacturers may formulate products by using either a non-VOC propellant, exempt solvents, or by using emulsion technology using exempt VOCs.

A 25 g/L limit for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products has been in effect since January 1, 2011, in the SCAQMD. Products sold in the SCAQMD should already be in full compliance. Our proposal to duplicate these SCAQMD provisions in ARB’s rule is designed to stem circumvention and ensure that the expected benefits from SCAQMD’s rule are fully realized. Manufacturers will need to make a business decision as to whether they intend to sell “Multi-purpose Solvent” and “Paint Thinner” products in the SCAQMD.

To meet the proposed GWP limit of 150, no reformulation of “Mist Spray Adhesive,” “Screen Printing Adhesive,” “Web Spray Adhesive,” aerosol “Multi-purpose Solvent” or aerosol “Paint Thinner” products will be needed because no use of compounds with GWP values greater than 150 were reported. The proposal is designed to prevent future use of higher GWP compounds.

The proposed amendments would prohibit the use of methylene chloride, perchloroethylene, or trichloroethylene in aerosol “Multi-purpose Solvent,” aerosol “Paint Thinner,” and “Screen Printing Adhesive” products. This prohibition, however, should not require reformulation because, based on the survey data reported, these products do not currently use these solvents in the formulation. We also note that the “Screen Printing Adhesive” products had previously been categorized as “Mist Spray Adhesive” products. A prohibition on use of chlorinated solvents is already in place for all aerosol adhesives.

Manufacturers may also comply with the proposed amendments through the use of either the Innovative Products Exemption (IPE) or the ACP. The IPE allows manufacturers of “innovative products” to comply with the Consumer Products Regulation if they demonstrate through clear and convincing evidence that their product will result in less VOC emissions than a complying product that meets the applicable VOC limit. Less VOC emissions from the innovative product may be realized as a result of some characteristic of the product formulation, design, delivery system, or other factors.

The ACP allows manufacturers to average the emissions from products above and below the applicable VOC limits, as long as the overall emissions are less than or equal to the emissions that would have occurred had all the products complied with the VOC limits. Manufacturers must submit an application which includes the VOC content of the products in the plan, a method of verifying the sales of each product in the plan, and other information necessary to track overall emissions.

c. Aerosol Coatings

The proposed amendments set new or lower Reactivity Limits for all aerosol coating categories. Noncomplying products will need to be reformulated by lowering the reactivity of their products. Manufacturers will comply with the proposed limits by substituting lower reactive ingredients for higher reactive ingredients.

d. Hairspray Credit Program, Tables of MIR Values, and Method 310

The proposed amendments to eliminate the Hairspray Credit Program, reorganize the oxygenated solvents by classification within the Tables of MIR Values, and revise analytical test procedures of Method 310 are administrative and procedural in nature in that they will clarify existing definitions, modify provisions to facilitate implementation and compliance, or streamline the regulations by deleting expired provisions. These proposals do not require a compliance response.

E. Environmental Impacts

1. Beneficial Impacts

The proposed amendments are expected to provide an air quality benefit. When taken together, the VOC limits for aerosol adhesives, aerosol “Multi-purpose Solvent” and “Paint Thinner” products, and aerosol coatings would result in a total VOC emission reduction of about 4 tons per day statewide. Of this amount, about 1.8 tons per day reduction would occur in the SCAQMD. Specifically, the proposed amendments would reduce VOC emissions from aerosol adhesive products and aerosol “Multi-purpose Solvent” and “Paint Thinner” products by about 0.4 ton per day. Proposed limits for aerosol “Multi-purpose Solvent” and “Paint Thinner” would become effective in 2016. Reducing the OFP of Aerosol Coating Products would result in an equivalent VOC reduction of about 3.7 tons per day. The proposed limits for aerosol coatings and aerosol adhesives would become effective in 2017.

In addition, strengthening exemption criteria for “Industrial Maintenance Coating” thinners and addressing circumvention of provisions for “Multi-purpose Solvent” and “Paint Thinner” products will result in fully realizing the expected air quality benefits.

The proposals would also ensure that use of compounds with higher GWP values does not begin in “Mist Spray Adhesive,” “Web Spray Adhesive” and “Screen Printing Adhesive” and aerosol “Multi-purpose Solvent” and “Paint Thinner” products.

Use of chlorinated TAC solvents would be precluded from use in aerosol “Screen Printing Adhesive,” “Multi-purpose Solvent” and “Paint Thinner” products as well as “Single Purpose Cleaner” and “Single Purpose Degreaser.” Use of methylene chloride, perchloroethylene, and trichloroethylene has already been prohibited from use in other aerosol adhesives, nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products, and aerosol coatings.

The proposed exemption of HFO-1234ze from the definition of VOC could result in additional VOC reductions to the extent that manufacturers are able to substitute use of this compound for currently used VOC propellants.

The amendments to provide further clarity should also aid stakeholders in understanding how to comply, thereby improving overall compliance with the regulations.

2. Resource Areas with No Impacts

Staff has evaluated the proposed amendments to determine whether their implementation would have the potential to adversely impact the environment. Based on staff's review, it has been determined that the proposed amendments would not result in any significant adverse impacts on the environment. The rationale for making this determination is further explained below.

As previously discussed, many of the amendments proposed in this rulemaking consist of administrative and procedural changes that affect only program administration, modifications to definitions, and facilitate implementation of the regulation and its enforceability. Therefore, compliance with these aspects of the proposed amendments could not possibly result in any physical change to the existing environment. These administrative changes are necessary to describe or clarify the types of products that are subject to VOC limits.

In the proposed amendments to the Consumer Products Regulation, staff is proposing to delay from December 31, 2015, to December 31, 2018, a 10 percent by weight VOC limit for "Multi-purpose Lubricant" products because the limit is not commercially and technologically feasible in the timeframe required in the current regulation. This proposed amendment would delay for 3 years a previously expected air quality benefit of 1.3 tons per day VOC reduction.

The proposed amendments to the Consumer Products Regulation specify provisions, include regulation of aerosol "Multi-purpose Solvent" and Paint Thinner" products. The aerosol forms of these products would have the same flammability issues as the nonaerosol forms which were discussed in the environmental analysis of the 2009 regulatory amendments. The regulation currently contains a prohibition on sale of flammable or extremely flammable nonaerosol "Multi-purpose Solvent" and "Paint Thinner" products unless specifically labeled to warn the consumer of the potential hazard. This provision is scheduled to sunset on December 31, 2015. At the time this provision was put in place, it applied only to liquid forms of "Multi-purpose Solvent" and "Paint Thinner" products. Because staff is now proposing to regulate the aerosol form of "Multi-purpose Solvent" and "Paint Thinner" products, as a safety precaution, staff is proposing to extend these safety labeling provisions until December 1, 2017. This proposal is designed to ensure that in the event aerosol "Multi-purpose Solvent" and "Paint Thinner" products are reformulated to increase the product's flammability, the consumer would be warned that the product is different. This warning would be especially necessary for products containing large amounts of acetone. While most aerosol forms of these products are already labeled as 'flammable' because they are formulated with flammable propellants, extending the date for requiring this warning label would provide additional protection.

For the proposed amendments to the Aerosol Coatings Regulation, there is the potential for a short-term very small increase in the OFP of “Hobby/Model/Craft” and “Shellac Sealer” coatings. In the existing regulation, the categories of “Hobby/Model/Craft” and “Shellac Sealer” coatings are further subdivided with separate limits. To streamline the regulation, staff is proposing to delete the subcategories and set a single limit effective January 1, 2015. Until the revised limits become effective, manufacturers of “Hobby/Model/Craft” and “Shellac Sealer” coatings could potentially reformulate their products to increase the OFP of their products. If all “Hobby/Model/Craft” and “Shellac Sealer” coatings were reformulated to the higher interim limit, staff estimates there would be an equivalent VOC increase of less than 0.1 ton per day for several months. Staff, however, does not expect this increase to occur. First, based on survey data for the 2010 calendar year, all “Hobby/Model/Craft” and “Shellac Sealer” coatings are already in full compliance with the lower limits proposed to become effective on January 1, 2015. Second, the interim limit that would allow “Hobby/Model/Craft” and “Shellac Sealer” coatings to be reformulated to increase OFP would likely become legally effective in late summer/early fall of 2014. Therefore, it is highly unlikely that manufacturers would opt to reformulate their complying products for the interim few months because that would not be cost effective. Therefore, staff determined there is a less than significant potential impact to air quality as a result of the proposed amendments to the Aerosol Coating Products Regulation.

Overall, emissions from consumer products will continue to decline. Staff expects a reduction in VOC emissions of about 5 tons per day to occur beginning December 31, 2013, and a further reduction of about 0.2 tons per day to occur beginning December 31, 2014, from VOC limits adopted in 2009 and 2010 rulemakings. Additionally, beginning in 2017, an equivalent VOC reduction of about 4 tons per day would be realized from implementation of these proposed amendments. Of this amount, about 1.8 tons per day reduction would occur in the SCAQMD.

Staff has concluded that the proposed amendments would result in no significant adverse impacts to aesthetics, agricultural and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems. These resources will not be impacted because compliance with the proposed amendments will not require any action that could affect these resources, either directly or indirectly. Based on staff’s analysis, we have determined that implementing the proposed amendments will result in an overall beneficial impact on the environment because VOC emissions from consumer products and OFP of aerosol coatings will be reduced.

No discussion of alternatives or mitigation measures is necessary because no significant adverse environmental impacts were identified.

VI. Environmental Justice

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. ARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions on December 13, 2001, to establish a framework for incorporating environmental justice into ARB's programs consistent with the directives of State law (ARB 2001). These policies apply to all communities in California, but recognize that environmental justice issues have been raised more in the context of low-income and minority communities.

Staff has determined that the amendments proposed in this rulemaking are consistent with our environmental justice policies. Among the goals of the proposed amendments is to reduce VOC emissions from several consumer product categories and lower the OFP of aerosol coatings, thereby improving air quality. Use of certain toxic compounds and compounds with higher GWPs would also be prohibited in several categories. Many of the proposals are also designed to improve compliance.

Consumer products are considered area sources and, as such, their use is not focused in a particular area leading to a potential "hot spot." Generally, use of consumer products and aerosol coatings is fairly uniform across the State, tracking with housing units, and their emissions are spread over the course of a day, rather than concentrated at a particular time of day. For these reasons, we believe that reducing emissions from the use of consumer products and aerosol coatings would benefit all Californians. We do not expect any communities, especially those with low-income and minority populations, regardless of location, to be disproportionately impacted by adoption of the proposed amendments.

VII. Economic Impacts

This Chapter describes the economic impacts that would be expected from implementation of the proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, Method 310, Tables of MIR Values and proposed repeal of the Hairspray Credit Program. Among other things, the proposed amendments would require a reduction in VOC emissions from consumer products (“Aerosol Adhesive,” “Multi-purpose Solvent,” and “Paint Thinner” products) and a reduction in the OFP of aerosol coating product emissions. We evaluated the cost impacts on manufacturers of these products, other industries associated with the consumer products and aerosol coatings industries, and consumers. Our analysis also estimates the cost effectiveness of the proposed amendments. Because cost effectiveness is traditionally based on cost per pound of VOC reduced, we are presenting our analysis in this metric.

This analysis focuses on the costs incurred by manufacturers to meet the proposed VOC standards and Reactivity Limits. There are no costs associated with the proposed amendments to the Antiperspirants and Deodorants Regulation, the Tables of MIR Values, Method 310, and the proposed repeal of the Hairspray Credit Program because these modifications are administrative in nature.

The analysis also provides an estimate of the fiscal impacts of the proposed amendments on State and local agencies. Potential fiscal impacts would be costs incurred by State agencies to administer, enforce, or comply with the proposal. Local agencies would have no costs associated with the proposed amendments.

Economic impact analyses are inherently imprecise, given the unpredictable behavior of companies in a highly competitive market such as consumer products. While staff has quantified the economic impacts to the extent feasible, some projections are necessarily qualitative, and based on general observations and facts known about the consumer products industry. This analysis, therefore, serves to provide a general picture of the economic impacts typical businesses might encounter. Individual companies may experience different impacts than projected.

This chapter provides the following information:

- Summary of Economic Impacts;
- Determination that this is not a Major Regulation;
- Costs of Compliance;
- Reasonable Alternatives;
- Return on Owners’ Equity;

- Impacts on California Businesses, Consumers, and State and Local Agencies;
- Other Possible Economic Impacts of Regulatory Changes; and
- Mitigation of Potential Impacts.

This economic impacts analysis was conducted in accordance with the current legal requirements under the Administrative Procedures Act (APA). Similar methodologies and assumptions were used in recent consumer products rulemakings (ARB, 2009 and ARB, 2010a).

A. Summary of Economic Impacts

In this section, we describe the economic impacts that would be expected from implementation of the proposed amendments to the Consumer Products Regulation and the Aerosol Coating Products Regulation. Our analysis pertains to costs associated with complying with the proposed VOC standards or Reactivity Limits. We expect the other proposed amendments to these regulations, which are of an administrative nature, to result in negligible or no costs.

Businesses that manufacture consumer products and aerosol coatings that do not comply with the proposed limits would incur costs to reformulate their products.

Staff has estimated that the cost to comply with the proposed limits is about \$5,300,000 per year. The total cost to comply with the proposed limits is approximately \$26.5 million over five years. The cost includes both recurring (e.g., raw materials) and nonrecurring (e.g., research and development) costs and is estimated based on assumptions specific to each category.

Another measure of the economic impacts of the proposal is to determine the “dollars to be spent per pound of VOC reduced,” or cost effectiveness (CE). The CE of the proposed amendments has been calculated to be about \$1.82 per pound of VOC equivalent emissions reduced.

The “return on owner’s equity” (ROE) compares a company’s percentage reduction in profitability before and after incurring the costs associated with the proposed amendments. The analysis found that the overall reduction in profitability of a typical company in an affected industry ranges from negligible to about 6.3 percent. While a reduction in profitability of six percent is not considered significant, the potential exists that some manufacturers with low profit margin may experience a significant impact in their profitability.

Our analysis of ROE assumes that all compliance costs will be absorbed by the affected industry. However, it is most likely that affected businesses will be able to pass on at least part of the cost increase to consumers.

If all assumed compliance costs are passed on to the consumer, without consideration of typical retail mark-up, we estimate the cost per unit increase would range from \$0.12 to \$0.42 for consumer products. The cost per unit increase for over 95 percent of the Aerosol Coating Products sold would range from \$0.05 to \$0.53. For a few low volume, specialized-use products the increase in cost per unit may be higher. By apportioning annual sales to the 12.6 million households in California (U.S. Census, 2010), we estimated that a household purchases less than one unit of “Aerosol Adhesive” or aerosol “Multi-purpose Solvent” and “Paint Thinner” per year, and less than three units of aerosol coatings per year. Thus, the consumer’s cost increase to purchase an “Aerosol Adhesive” or aerosol “Multi-purpose Solvent and “Paint Thinner” would increase by about \$0.12 to \$0.42 per year. For most aerosol coatings, the increased cost to the consumer would be about \$0.15 to \$1.59 per year.

Based on our ROE calculations, we believe that overall, most affected businesses will be able to absorb the costs, or will pass through some of the costs to the consumer, such that there will be no significant adverse impacts on their profitability. Therefore, we do not expect a noticeable change in employment; business creation, elimination or expansion; or business competitiveness in California. However, the proposed amendments may impose economic hardship on some businesses with very little or no margin of profitability.

We determined that there would be no significant adverse fiscal impacts to any local or State agency. Details of our cost analysis are in the following sections. Additional information as to how recurring and nonrecurring costs were estimated is contained in Appendices I and J.

B. Major Regulations

For purposes of this section, “major regulation” means any regulation that will have an economic impact on the state’s business enterprises in an amount exceeding \$10 million dollars (\$10,000,000) per year, as estimated by the board, department, or office within the agency proposing to adopt the regulation in the assessment required by subdivision of section 11346.3 of the Government Code.

This proposal is not considered a major regulation because staff does not expect the cost of compliance to exceed \$10 million in any year.

C. Reasonable Alternatives to the Regulation and the Agency’s Reason for Rejecting those Alternatives

Staff evaluated two alternatives: no action and setting more stringent limits (see Chapter II). No alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective or less burdensome to affected private persons than the proposed regulation.

D. Costs of Compliance

The total cost to comply with the proposal requires an estimation of the recurring and nonrecurring costs that would be expended to reformulate and bring a product to market. Recurring costs for this analysis are those associated with the cost of the raw materials. Nonrecurring costs are assumed to be one-time costs and are those associated with research, development, and plant changes that may be necessary to develop a reformulated complying product. Our analysis further assumes that nonrecurring costs will be amortized over a project horizon of five years. Summing the recurring and amortized nonrecurring costs represents the total cost to reformulate a product. We then use the total cost to estimate the potential cost per unit increase to the consumer, the CE of the proposed amendments, and the ROE.

There are many variables in producing a product for market, and assumptions about those variables will greatly affect the outcome of any cost analysis. For each assumption, staff applied a test of “reasonableness” to determine if this was a likely approach to take, or if the event had a high probability of occurring. The following section presents the estimated cost to comply with the proposed amendments to the Consumer Products Regulation and the Aerosol Coating Products Regulation.

1. Recurring Costs

As part of the economic impact analysis, we evaluated the expected cost impacts from complying with the proposed VOC and Reactivity Limits on raw material costs. The change in the cost of raw material costs are expected to be ongoing, *i.e.*, they are recurring costs.

a. Methodology

The following data sets were used to determine the formulations which most closely reflect the “typical” compliant and noncompliant product contents:

- 2008 Paint Thinner and Multi-purpose Solvent Survey Update (ARB, 2008);
- 2010 Consumer and Commercial Products Survey Update for Aerosol Coating and Aerosol Adhesive Products (ARB, 2011); and
- 2012 Technical Assessment for Aerosol Multi-purpose Solvents and Paint Thinners (ARB, 2012).

For each category staff estimated a “low cost” and “high cost” by varying costs for ingredients. Information on how raw material costs were estimated, as well as formulations evaluated (with individual weight fractions and unit prices per pound), are shown in Appendix I. While these formulations may not reflect the exact composition of existing noncompliant products and compliant products that will be marketed, we believe they are reasonably representative for the purposes of this analysis.

Except for ingredient costs, we assumed changes in packaging, delivery systems, labeling, distribution and other recurring costs would be negligible relative to baseline levels of these costs. We believe this assumption is valid because the proposed limits should not require significant packaging or delivery system modifications. We also believe distribution costs would be the same because we do not expect manufacturers to sell and distribute “California only products.” The most likely pathway for reformulation was assumed for noncompliant products. Despite this assumption, alternative formulations may allow lower-cost compliant products than shown in our analysis.

For the “Uniform Finish Coating,” “Mold Release Coating” and “Two Component Coating” categories of aerosol coatings, the proposed amendments include new Reactivity Limits, however, the survey data indicates that all reported products meet the proposed limits. Even though these Reactivity Limits do not achieve reductions, they would insure that the OFP of these products does not increase from current levels. Because these products already comply with the proposed limits, there is no cost and thus, no cost analyses were conducted for these categories.

b. Results

The estimated costs of typical noncompliant and compliant formulations for each consumer product and aerosol coating category, and calculated total recurring costs are described below.

The estimated cost of typical noncompliant and compliant formulations for each category is displayed in Tables VII-1a and VII-1b. The values are taken from Appendix I.

Table VII-1a
Estimated Change in Formula Cost per Unit for Consumer Products**

Category	Formula Cost per Unit				Cost Increase to Comply per Unit		
	Noncompliant		Compliant				
	Low	High	Low	High	Low	High	Average
	A ₁	A ₂	B ₁	B ₂	C ₁ = B ₁ – A ₁	C ₂ = B ₂ – A ₂	C ₃ = (C ₁ +C ₂)/2
Mist Spray Adhesive	\$0.48	\$0.59	\$0.47	\$0.58	\$0.00	\$0.00	\$0.00
Screen Printing Adhesive	\$0.62	\$0.75	\$0.61	\$0.75	\$0.00	\$0.00	\$0.00
Web Spray Adhesive	\$0.52	\$0.65	\$0.52	\$0.64	\$0.00	\$0.00	\$0.00
Aerosol Multi-purpose Solvent & Paint Thinner	\$0.45	\$0.58	\$0.46	\$0.77	\$0.01	\$0.19	\$0.10

* Raw material costs are assumed to be \$0.00 when staff estimates that materials used to reformulate are comparably priced to current materials or are less expensive than currently used.

+ Numbers are rounded in tables, however, unrounded numbers are used in calculations.

Table VII-1b
Estimated Change in Formula Cost per Unit for Aerosol Coatings**

Category	Formula Cost per Unit				Cost Increase to Comply per Unit	
	Noncompliant		Compliant		Low	High
	Low	High	Low	High		
	A ₁	A ₂	B ₁	B ₂	C ₁ = B ₁ – A ₁	C ₂ = B ₂ – A ₂
Clear Coating	\$0.54	\$0.66	\$0.58	\$0.70	\$0.04	\$0.04
Flat Coating	\$0.51	\$0.64	\$0.53	\$0.67	\$0.02	\$0.03
Fluorescent Coating	\$0.64	\$0.74	\$0.64	\$0.74	\$0.00	\$0.00
Metallic Coating	\$0.50	\$0.61	\$0.50	\$0.62	\$0.00	\$0.01
Nonflat Coating	\$0.53	\$0.65	\$0.55	\$0.69	\$0.03	\$0.04
Primer	\$0.81	\$0.95	\$0.81	\$0.95	\$0.00	\$0.00
Auto Body Primer	\$0.76	\$0.90	\$0.76	\$0.90	\$0.00	\$0.00
Electrical /Electronic/ Conformal Coating	\$0.54	\$0.65	\$0.63	\$0.81	\$0.09	\$0.17
Exact Match Finish: Automotive	\$0.36	\$0.46	\$0.37	\$0.47	\$0.00	\$0.01
Exact Match Finish: Engine	\$0.46	\$0.59	\$0.47	\$0.60	\$0.01	\$0.01
Exact Match Finish: Industrial	\$0.53	\$0.64	\$0.54	\$0.67	\$0.01	\$0.03
Flexible Coating	\$0.58	\$0.68	\$0.59	\$0.70	\$0.01	\$0.01
Ground Traffic/Marking Coating	\$0.49	\$0.60	\$0.53	\$0.64	\$0.04	\$0.04

* Raw material costs are assumed to be \$0.00 when staff estimates that materials used to reformulate are comparably priced to current materials or are less expensive than currently used.

+ Numbers are rounded in tables, however, unrounded numbers are used in calculations.

As shown in Tables VII-1a and VII-1b, the expected change in cost of the raw materials is low because the ingredients predicted to be used in reformulations have similar costs to those in current use. The difference between high and low cost noncompliant and compliant formulations yields the change in ingredient costs. As shown in Columns C₁ and C₂, the anticipated raw materials cost change ranges from no cost (net savings or no cost) to about \$0.20 increase per unit. Note that when the cost for raw materials in the predicted reformulated product are comparable or slightly cheaper to those currently used, rather than assigning a negative cost, we assume there will be no change in the cost of raw materials.

Using the change in the cost per unit from Tables VII-1a and VII-1b, the total recurring costs per category are calculated as shown in Tables VII-2a and VII-2b. To arrive at the total cost per category, estimated noncompliant unit sales (Column D) are multiplied by the recurring costs per unit taken from Tables VII-1a and VII-1b.

Table VII-2a
Total Estimated Recurring Costs for Consumer Products

Category	Annual California Non-complying Unit Sales*	Total Annual Recurring Cost per Category ⁺		
		Low Cost	High Cost	Average Cost
	D	$E_1 = D \times C_1$	$E_2 = D \times C_2$	$E_3 = (E_1 + E_2)/2$
Mist Spray Adhesive	960,579	\$0.00	\$0.00	\$0.00
Screen Printing Adhesive	116,855	\$0.00	\$0.00	\$0.00
Web Spray Adhesive	490,025	\$0.00	\$0.00	\$0.00
Aerosol Multi-Purpose Solvent & Paint Thinner**	200,000	\$2,000	\$38,000	\$20,000

* Assumes "typical" unit size as shown in Appendix I.

⁺ Numbers are rounded in tables, however, unrounded numbers are used in calculations.

** Annual California sales rounded to protect confidentiality.

As shown in Table VII-2a, Column E_3 the average total recurring cost per category ranges from no cost to about \$20,000 for the aerosol "Multi-purpose Solvent" and "Paint Thinner" products reformulated to comply with the proposed VOC limits.

As shown in Table VII-2b, Column E_3 the average total recurring cost per category ranges from \$6 to about \$350,000 for the "Fluorescent Coating" and "Nonflat Coating" products, respectively, reformulated to comply with the proposed reactivity limit.

2. Nonrecurring Costs

In this portion of the analysis, we evaluated the impacts of nonrecurring costs likely to be expended to comply with the proposed limits. These are assumed to be costs incurred once to conduct the necessary research and development and make any necessary modifications to manufacturing facilities needed to produce a complying product or product line. Technical literature and industry trade journals provide little information to estimate nonrecurring costs directly. This is not surprising because the industry is very competitive, and production cost data specific to a company are closely guarded trade secrets. Stakeholders have generally concurred that our assumptions for nonrecurring costs are reasonable. Appendix J displays the various phases of product development and the costs that are assigned to each phase.

Table VII-2b
Total Estimated Recurring Costs for Aerosol Coatings

Category	Annual California Non-complying Unit Sales*	Total Annual Recurring Cost per Category ⁺		
		Low Cost	High Cost	Average Cost
	D	$E_1 = D \times C_1$	$E_2 = D \times C_2$	$E_3 = (E_1 + E_2)/2$
Clear Coating	1,489,678	\$58,334	\$58,777	\$58,556
Flat Coating	2,570,431	\$45,441	\$86,395	\$65,918
Fluorescent Coating	57,329	\$0	\$13	\$6
Metallic Coating	1,023,713	\$0	\$11,693	\$5,846
Nonflat Coating	11,031,676	\$286,860	\$420,427	\$353,644
Primer	2,116,444	\$0	\$1,905	\$952
Auto Body Primer	803,428	\$0	\$648	\$324
Electrical/Electronic/Conformal Coating	814	\$72	\$135	\$103
Exact Match Finish: Automotive	558,255	\$2,667	\$5,501	\$4,084
Exact Match Finish: Engine	303,795	\$3,812	\$4,129	\$3,970
Exact Match Finish: Industrial	139,225	\$966	\$3,885	\$2,425
Flexible Coating	1,344	\$11	\$16	\$13
Ground Traffic/Marking Coating	2,135,732	\$83,789	\$92,849	\$88,319

* Assumes "typical" unit size as shown in Appendix I.

⁺ Numbers are rounded in tables, however, unrounded numbers are used in calculations.

a. Methodology

To estimate nonrecurring costs, we used a low and high cost approach for each product category of consumer products. The consumer product categories proposed for regulation fall under either "household care" or "adhesive" type of products. To estimate nonrecurring costs for aerosol coatings, we used a single cost approach for each category. The aerosol coatings categories are considered "household care" products. Appendix J displays how nonrecurring costs were apportioned. For each category only new or additional costs were considered. Costs were not considered that would have been expected in the normal course of business if the regulation had not been in effect.

Because most of the data for aerosol coatings reported in the 2010 Survey represented aerosol coating product groups, we estimated the cost to reformulate an aerosol coating product line. In most cases aerosol coating product groups are color variants of the same product. The number of products grouped in the reported data ranged from a single product to as many as 40 products. While some product lines have a relatively large number of colors, the survey data show that, on average, the number of products grouped is five.

Amortizing Nonrecurring Costs

In the next part of our analysis, we amortized nonrecurring costs over five years using the Capital Recovery Method. This is a standard methodology and it is recommended under guidelines issued by the California Environmental Protection Agency.

The equation below shows the derivation for the Capital Recovery Factor (CRF) which was used to calculate the amortized cost.

$$\text{Annualized nonrecurring costs} = (\text{Nonrecurring Costs}) \times [i(1+i)^n / ((1+i)^n - 1)]$$

Where:	$i(1+i)^n / ((1+i)^n - 1)$	=	Capital Recovery Factor (CRF)
	i	=	discount interest rate over project horizon, %
	n	=	number of years in project horizon
	Nonrecurring Costs	=	total nonrecurring cost per product

We assumed a project horizon of five years, a commonly cited period for an investment's useful lifetime in the chemical processing industry. We also assumed a fixed interest rate of 5 percent throughout the project horizon. These assumptions are conservative. Based on these assumptions, the CRF, as shown below, is 0.23097.

$$\begin{aligned} \text{CRF} &= 0.05(1+0.05)^5 / ((1+0.05)^5 - 1) \\ &= 0.05(1.28) / 0.28 \\ &= 0.064 / 0.28 \\ &= 0.231 \text{ (rounded)} \end{aligned}$$

The equation below shows that for a given category the estimated total nonrecurring costs per product is multiplied by the CRF to convert these costs into equal annual payments over a project horizon (i.e., the projected useful life of the investment) at a discount rate.

Using the low cost estimate for "Mist Spray Adhesive" from Table VII-3, Column A₁, the amortized cost is:

$$\text{Amortized Cost:} \quad \$162 \times 0.23097 = \$37$$

b. Results

The results of our assessment of the nonrecurring costs to be incurred for each consumer product or aerosol coating category are explained below. The methodology to estimate nonrecurring costs for consumer products and aerosol coatings are somewhat different, so they are discussed separately.

Table VII-3, Column A displays the results of our assessment of the nonrecurring costs to be incurred for each consumer product category. These costs are taken from Appendix J. Estimated amortized nonrecurring costs for the low cost scenario range from \$37 to about \$3,000 per category. Note also that nonrecurring costs for the high cost scenario range from about \$4,600 to \$11,000 per category.

Table VII-3
Estimated Nonrecurring per Product Costs to Comply with the Proposed Limits

Category	Cost Per Product		Amortized Cost Per Product	
	Low	High	Low	High
	A_1	A_2	$B_1 = A_1 \times \text{CRF}^*$	$B_2 = A_2 \times \text{CRF}^*$
Mist Spray Adhesive	\$162	\$20,064	\$37	\$4,634
Screen Print Adhesive	\$162	\$20,064	\$37	\$4,634
Web Spray Adhesive	\$162	\$20,064	\$37	\$4,634
Aerosol Multi-purpose Solvent & Paint Thinner	\$12,783	\$47,571	\$2,952	\$10,987

* CRF = Capital Recovery Factor of 0.23097

Next, nonrecurring costs for all noncompliant products per category are calculated by using the low and high amortized costs. In the low cost scenario, we assume that manufacturers will conduct research and other product development once for a given product category, and use these efforts as a basis to reformulate all their other non-complying products in the same product category. As shown in Table VII-4, the low cost incurred by all businesses is multiplied by the low product cost (Column C_1) and number of companies (Column B) that have noncomplying products within the given category.

In the total nonrecurring high cost scenario, we assume that reformulation costs would be incurred per product. This means that companies that have multiple noncomplying products in a given category would conduct separate research and development efforts for each product in their respective product lines. Thus in this case, the high amortized cost (Column C_2) is multiplied by the number of noncomplying products (Column A).

Table VII-4
Estimated Total Nonrecurring Costs per Category for Consumer Products

Category	# Non-complying Products*	# Non-complying Companies	Estimated Cost Per Product		Annualized Nonrecurring Cost per Category ⁺		
	A	B	C ₁ low	C ₂ high	D ₁ low = C ₁ x B	D ₂ high = C ₂ x A	D3 avg = (D1+D2)/2
Mist Spray Adhesive	68	28	\$37	\$4,634	\$1,036	\$315,112	\$158,074
Screen Printing Adhesive	6	3	\$37	\$4,634	\$111	\$27,804	\$13,958
Web Spray Adhesive	58	29	\$37	\$4,634	\$1,073	\$268,772	\$134,922
Aerosol Multi-Purpose Solvent & Paint Thinner**	10	6	\$2,952	\$10,987	\$17,714	\$109,874	\$63,794
Total:	142	41 ⁺⁺	NA	NA	\$19,957	\$721,579	\$370,768

* Adjusted for market covered in survey. Assume 90% for all categories.

⁺ Numbers are rounded in tables, however, unrounded numbers are used in calculations.

⁺⁺ The total is less than the sum since the same companies appear in multiple categories.

** Number of noncomplying companies and products rounded to protect confidentiality.

As shown in Table VII-4, total category annualized nonrecurring costs for the low cost scenario range from about \$100 to about \$18,000. For the high cost scenario, costs range from about \$28,000 to about \$300,000. Also as shown in Table VII-4, the total average nonrecurring cost to industry is projected to range from about \$14,000 to about \$160,000 dollars per year for five years.

In order to comply with the proposed Reactivity Limits for aerosol coatings, substitution of lower reactive solvents for higher reactive solvents will be necessary. Major retooling of manufacturing equipment would not be required, technical data changes would be minor, and the change in marketing costs would be small. Based on these assumptions, the estimated nonrecurring costs for each aerosol coating category are \$16,504 per product line. These costs are detailed in Appendix J. This cost multiplied by the CRF of 0.23097 yields an amortized cost of \$3,811.94. We expect this nonrecurring cost to be the same for each of the aerosol coating categories.

Next, nonrecurring costs for all noncompliant products per category are calculated by using the amortized costs. We assume that manufacturers will conduct research and other product development once for a given product line, and use these efforts as a basis to reformulate all their other noncomplying products in the same product line.

As shown in Table VII-5, the cost incurred by all businesses is the product of the cost (Column C) and number of noncomplying product lines within the given category (Column A).

Table VII-5
Estimated Total Nonrecurring Costs per Category for Aerosol Coatings

Category	# Non-complying Products*	Estimated Cost Per Product*	Total Nonrecurring Cost per Category**
	A	C	D = C X A
Clear Coating	190	\$3,812	\$724,269
Flat Coating	89	\$3,812	\$339,263
Fluorescent Coating	3	\$3,812	\$11,436
Metallic Coating	59	\$3,812	\$224,905
Nonflat Coating	278	\$3,812	\$1,059,721
Primer	145	\$3,812	\$552,732
Auto Body Primer	50	\$3,812	\$190,597
Electrical/Electronic/Conformal Coating	6	\$3,812	\$22,872
Exact Match Finish: Automotive	226	\$3,812	\$861,500
Exact Match Finish: Engine	12	\$3,812	\$45,743
Exact Match Finish: Industrial	68	\$3,812	\$259,212
Flexible Coating	1	\$3,812	\$3,812
Ground Traffic/Marking Coating	7	\$3,812	\$26,684
Total:	1,133	NA	\$4,322,745

* Number of noncomplying product lines rather than individual products. Adjusted for market coverage.

** Numbers are rounded in tables, however, unrounded numbers are used in calculations.

As shown in Table VII-5, total category annualized nonrecurring costs range from about \$3,812 to about \$1,100,000. Also as shown in Table VII-5, the total nonrecurring cost to industry is projected to be about \$4.3 million dollars per year for five years.

3. Total Costs

As shown below, for each consumer product and aerosol coating category, the total cost of reformulation is estimated by summing recurring costs (see Tables VII-2a and VII-2b, respectively) with nonrecurring amortized costs (see Tables VII-4 and VII-5, respectively). Tables VII-6a and VII-6b below display the total cost to reformulate all

noncomplying products for each consumer product and aerosol coating category, respectively.

Table VII-6a
Estimated Total Costs to Comply with the Proposed VOC Limits
for Consumer Products

	Nonrecurring Costs		Recurring Costs[*]	
	Low	High	Low	High
	A ₁	A ₂	B ₁	B ₂
Mist Spray Adhesive	\$1,046	\$315,121	\$0.00	\$0.00
Screen Print. Adhesive	\$112	\$27,805	\$0.00	\$0.00
Web Spray Adhesive	\$1,084	\$268,779	\$0.00	\$0.00
Aerosol Multi-Purpose Solvent & Paint Thinner**	\$17,714	\$109,874	\$2,000	\$38,000
	Nonrecurring and Recurring Costs⁺			
	Low	High	Average	
	C ₁ =	C ₂ =	C ₃ =	
	A ₁ + B ₁	A ₂ + B ₂	(C ₁ + C ₂)/2	
Mist Spray Adhesive	\$1,046	\$315,121	\$158,084	
Screen Print. Adhesive	\$112	\$27,805	\$13,958	
Web Spray Adhesive	\$1,084	\$268,779	\$134,932	
Aerosol Multi-Purpose Solvent & Paint Thinner	\$19,714	\$147,874	\$83,794	
TOTAL:	NA	NA	\$390,768	

* A cost of \$0 may indicate a per unit cost of less than one-half of one cent.

+ Numbers are rounded in tables, however, unrounded numbers are used for calculations.

Table VII-6a (Column C₃) shows the average cost estimate for consumer products to range from about \$14,000 to about \$160,000. As shown in Column C₃, the overall average cost to reformulate all noncompliant products for all consumer product categories is about \$391,000.

For aerosol coatings products, as shown in Table VII-6b, we estimate the industry compliance costs to range from \$4,000 to about \$1.4 million per year for “Flexible Coating” and “Nonflat Coating” categories, respectively.

Table VII-6b
Estimated Total Costs to Comply with the Proposed MIR Limits
for Aerosol Coatings

	Nonrecurring Costs*	Recurring Costs*	Total⁺
	A	B	C = A + B
Clear Coating	\$724,269	\$58,556	\$782,825
Flat Coating	\$339,263	\$65,918	\$405,181
Fluorescent Coating	\$11,436	\$6	\$11,442
Metallic Coating	\$224,905	\$5,846	\$230,751
Nonflat Coating	\$1,059,721	\$353,644	\$1,413,364
Primer	\$552,732	\$952	\$553,684
Auto Body Primer	\$190,597	\$324	\$190,921
Electrical /Electronic/ Conformal Coating	\$22,872	\$103	\$22,975
Exact Match Finish: Automotive	\$861,500	\$4,084	\$865,583
Exact Match Finish: Engine	\$45,743	\$3,970	\$49,714
Exact Match Finish: Industrial	\$259,212	\$2,425	\$261,638
Flexible Coating	\$3,812	\$13	\$3,825
Ground Traffic/Marking Coating	\$26,684	\$88,319	\$115,002
TOTAL:	\$4,322,745	\$584,161	\$4,906,906

* A cost of \$0 may indicate a per unit cost of less than one-half of one cent.

* Numbers are rounded in tables, however, unrounded numbers are used in calculations.

As shown in Column C, the overall annual cost to reformulate all noncompliant products for all categories is about \$4.9 million.

4. Cost per Unit

We also evaluated the potential increased cost the consumer would pay if all costs of compliance were passed onto the consumer (not including retail mark-up). For this estimate, we assumed that all recurring and nonrecurring costs are assessed only to the number of noncomplying units in each category. We also assumed products reformulated to meet the proposed limits will be marketed in California only.

From our experience, we know that businesses generally formulate and distribute to the entire nation products that comply with California regulations, rather than incurring the additional cost of setting up a California specific product distribution system. Therefore,

we anticipate that the costs of compliance will not be assessed only to products sold in California, but will be spread over products sold across the country. If the costs are spread over products sold across the country, the cost per unit would be about 8 times lower than the results in Tables VII-7 and VII-8 by the California-apportionment factor (*i.e.*, the current ratio of California to U.S. population, or 12.1 percent (US Census, 2013)). It is also conservative to assume that only the cost of noncomplying products would increase because of competition in the market.

The details of our analysis of estimating the average cost per unit increase to the California consumer for the consumer products and aerosol coatings are explained below.

Tables VII-7 and VII-8 display the results of our analysis for consumer products and aerosol coatings. The nonrecurring costs from Tables VII-4 and VII-5 are divided by the number of noncomplying units sold in California per year (see column D of Tables VII-2a and 2b). The resulting nonrecurring cost per unit is then added to the recurring average cost per unit (taken from Tables VII-2a and 2b) to arrive at the total increase in cost per unit to the consumer. To illustrate, the nonrecurring portion of cost that would be passed onto the consumer is estimated by dividing the nonrecurring cost for “Mist Spray Adhesive” products of \$158,084 by the unit sales per year, or 960,579. The resulting cost passed onto the consumer for “Mist Spray Adhesive” products would be about \$0.16 per unit.

Table VII-7
Estimated Per-Unit Cost Increases to the Consumer for Consumer Products

	Estimated Noncompliant Unit Sales Per Year in CA	Nonrecurring Cost/Unit	Recurring Cost/Unit	Total Increase Cost/Unit
Category	A	B	C	D = B + C
Mist Spray Adhesive	960,579	\$0.16	\$0.00	\$0.16
Screen Printing Adhesive	116,855	\$0.12	\$0.00	\$0.12
Web Spray Adhesive	490,025	\$0.27	\$0.00	\$0.27
Aerosol Multi- purpose Solvent and Paint thinner	200,000	\$0.32	\$0.10	\$0.42

As shown in Table VII-7, we estimate the average cost per unit increase to the California consumer to range from \$0.12 to about \$0.42. Because of unpredictable factors, such as the highly competitive nature of the consumer products market, it is not possible to accurately predict the final retail price of products that will comply with the proposed limits when they become effective. To the extent the cost impacts are passed on to consumers, the final retail prices may be lower or higher than suggested by this analysis.

Table VII-8 displays the results of our analysis for the Aerosol Coating Products. The nonrecurring costs (Table VII-5) are divided by the number of noncomplying units sold in California per year (see column A of Table VII-8). Likewise total recurring costs (Table VII-2b) are divided by the number of noncomplying units. The resulting nonrecurring cost per unit is then added to the recurring cost per unit (see column C of Table VII-8) to arrive at the total increase in cost per unit to the consumer.

Table VII-8
Estimated Per-Unit Cost Increases to the Consumer for Aerosol Coatings

Category	Estimated Noncompliant Unit Sales Per Year in CA	Nonrecurring Cost/Unit	Recurring Cost/Unit	Total Increase Cost/Unit
	A	B	C	D = B + C
Clear Coating	1,489,678	\$0.49	\$0.04	\$0.53
Flat Coating	2,570,431	\$0.13	\$0.03	\$0.16
Fluorescent Coating	57,329	\$0.20	\$0.00	\$0.20
Metallic Coating	1,023,713	\$0.22	\$0.01	\$0.23
Nonflat Coating	11,031,676	\$0.10	\$0.03	\$0.13
Primer	2,116,444	\$0.26	\$0.00	\$0.26
Auto Body Primer	803,428	\$0.24	\$0.00	\$0.24
Electrical/Electronic/Conformal Coating	814	\$28.10	\$0.13	\$28.22
Exact Match Finish: Automotive	558,255	\$1.54	\$0.01	\$1.55
Exact Match Finish: Engine	303,795	\$0.15	\$0.01	\$0.16
Exact Match Finish: Industrial	139,225	\$1.86	\$0.02	\$1.88
Flexible Coating	1,344	\$2.84	\$0.01	\$2.85
Ground Traffic/Marking Coating	2,135,732	\$0.01	\$0.04	\$0.05

As shown in Table VII-8, we estimate the average cost per unit increase to the California consumer to range from \$0.05 for Ground Traffic/Marking Coating to \$28.22 for the “Electrical/Electronic/Conformal Coating.” Electrical/Electronic/Conformal Coating” products are predominately for commercial and industrial use and the costs associated with these coatings are not typical of the other aerosol coating categories. The typical aerosol coating product ranges in cost from about \$5 to \$10, while the cost range for “Electrical/Electronic/Conformal Coating” products is about \$24 to \$50. We also note that there is a very high complying market share (95 percent) in this category

so reformulation technologies are readily available that could be used. This would result in a lower cost than estimated here. Because of unpredictable factors such as the highly competitive nature of the aerosol coatings products market, it is not possible to accurately predict the final retail price of products that will comply with the proposed limits when they become effective. To the extent the cost impacts are passed on to consumers, the final retail prices may be lower or higher than suggested by this analysis.

5. Cost-Effectiveness (CE)

Using the total costs displayed in Tables VII-6a and VII-6b, we evaluated the anticipated CE of the proposed new limits for consumer products and aerosol coatings. Such an evaluation allows us to compare the efficiency of the proposed limits in reducing a pound of VOC relative to other existing regulatory programs.

The CE of a reduction strategy is generally defined as the ratio of total dollars to be spent to comply with the strategy (as an annual cost) to the mass reduction of the pollutant(s) to be achieved by complying with that strategy (in annual pounds). The CE is calculated as shown by the following general equation:

$$\text{Cost Effectiveness} = \frac{\text{Total Cost to Comply}}{\text{Annual Mass Reduction in VOC}}$$

We estimate that, when fully effective, the proposed limits will result in VOC equivalent emission reductions of about 4 tons per day, or 2,920,000 pounds per year from consumer products and aerosol coatings. In this chapter, we have calculated that the average total cost to comply with the proposed limits is \$5.3 million per year.

The CE of the proposed amendments is about \$1.82 per pound of VOC reduced, as shown by the following equation:

$$\frac{\$5,300,000}{2,920,000 \text{ pounds}} = \$1.82 \text{ per pound}$$

Table VII-9 shows a comparison of the CE for the proposed limits relative to other ARB consumer product regulations and control measures. As shown in Table VII-9, the CE is comparable to several other rulemakings.

Table VII-9
Comparison of Cost-Effectiveness for ARB Consumer Product
Regulations/Measures

Regulation/Control Measure	Cost-Effectiveness (Dollars per Pound VOC Reduced)
2013 Amendments	\$1.82
2010 Amendments (ARB, 2010a)	\$0.98
2009 Amendments (ARB, 2009)	\$0.29
2008 Amendments (ARB, 2008a)	\$6.23
2006 Amendments (ARB, 2006a)	\$2.35
Aerosol Adhesives (ARB, 2000a)	\$6.00
Architectural and Industrial Maintenance Coatings (ARB, 2007)	\$1.12

E. Return on Owners' Equity

Typical California businesses are affected by the proposed new limits to the extent that the implementation of these requirements would change their profitability. To estimate reduction in profitability, this portion of the economic impacts analysis compares the ROE for affected businesses before and after inclusion of the cost to comply with the proposed amendments. The data used in this analysis are obtained from annual financial reports of affected companies and online financial sources, the ARB's 2010 Aerosol Coating and Adhesive Products Survey (ARB, 2010), and the Technical Assessment for "Multi-purpose Solvent" and "Paint Thinner" products.

1. Affected Businesses

Any business which manufactures or markets consumer products subject to the proposed new limits and requirements can be directly affected by this regulation. Also potentially affected are businesses which supply raw materials or equipment to manufacturers or marketers, and those that distribute or sell consumer products and aerosol coatings in California.

For consumer products, the focus of this analysis will be on manufacturers, marketers and distributors that are most affected by the proposed measures. Of the companies manufacturing the affected consumer products, six are located in California, and one of the six companies is a small business. Altogether, there are about 150 products (based on reported figures in the 2010 Survey).

For aerosol coatings, although other entities such as distributors, retailers, end users and raw material suppliers may be impacted, aerosol coating manufacturers will be the

primary entities affected. Of all the manufacturers, 8 of the 93 companies affected by the proposed amendments represent about 90 percent of the market share of sales for Aerosol Coating Products. Staff estimates these manufacturers will absorb most of the cost impacts associated with meeting the proposed limits. The focus of this analysis will be on these large manufacturers. Thirteen of these companies are located in California and eight of the thirteen companies are small businesses. Altogether, there are 1,133 product lines (Table VII-5, column A).

2. Analysis Approach

The approach used in evaluating the potential economic impact of the proposed measures on these businesses is as follows:

- a typical business from each product category was selected from the Surveys' respondents;
- a range of compliance costs were estimated for each affected product category. The average cost for consumer products (see Table VII-6a), and the cost for aerosol coatings (Table VII-6b) for each category was used in this analysis;
- compliance cost to a typical business was then estimated based on a weighted average of all product category costs in the affected industry;
- estimated cost was adjusted for federal and State taxes;
- the ROE was calculated for each of these businesses by dividing the net profit by the net worth. The adjusted cost was then subtracted from net profit data. The results were used to calculate an adjusted ROE; and
- the adjusted ROE was then compared with the ROE before the subtraction of the cost to determine the potential impact on the profitability of the business.

An ROE reduction of more than 10 percent in profitability, assuming that all costs are absorbed by the affected company and not passed on to the consumer, is considered to indicate a potential for significant adverse economic impacts. This threshold has been used consistently by ARB staff to determine impact severity and is consistent with that used by the U.S. EPA.

3. Assumptions

The 2010-2012 actual financial data for eight of the largest aerosol coating companies in the Paint and Coatings Manufacturing (North American Industry Classification System (NAICS) code 325510), seven largest adhesive companies in the Adhesive Manufacturing (NAICS code 325520), and one multi-purpose solvent and paint thinner company (NAICS code 325510) were used to calculate the ROEs before and after the subtraction of the compliance costs for a typical business. The calculations were based on the following assumptions:

- affected companies account for about 90 percent of the market share of aerosol coatings and about 90 percent of the market share of consumer products;

- all affected businesses were subject to federal and State tax rates of 39.6 percent and 10.6 percent respectively; and
- affected businesses are not able to increase the prices of their products, nor can they lower their costs of doing business through short-term cost-cutting measures.

Given the limitation of available data, we believe these assumptions are reasonable for most businesses at least in the short run; however, they may not be applicable to all businesses.

4. Results

Table VII-10 shows the results of our analysis of ROE. The percentage in reduction of profitability ranges from 0.05 percent to about 3.3 percent for aerosol coatings and from no impact to about 6.3 percent for consumer products. The average change in ROE is 0.8 percent for aerosol coatings and 1.0 percent for consumer products. These ROE values are not considered significant.

Table VII-10
Summary of Decline in Return on Owners' Equity (ROE)

NAICS	Description	Percent Change in ROE	Average Percent Change in ROE
325510	Paint and Coatings Manufacturing		
	- Aerosol Coatings	0.05 – 3.3	0.8
	- Multi-purpose Solvent and Paint Thinner	0.6	0.6
325520	Adhesive Manufacturing	0.00 – 6.3	1.0

Our analysis assumes that all compliance costs will be absorbed by the affected industry. However, it is most likely that affected businesses will be able to pass on at least part of the cost increase to consumers. Because consumers spend only a small portion of their annual budget on affected products, they are not expected to be sensitive to a small increase in the prices of those products. To the extent that the projected costs are passed on to consumers, the impact on business profitability is likely to be much less than estimated in our projection.

The proposed amendments impact each company uniquely and each company will choose the manner and timing to comply differently. We expect some companies to begin absorbing the costs from the proposed amendments immediately upon adoption, while others will wait until the effective dates. We believe that overall, most affected businesses will be able to absorb the costs, or will pass through some of the costs to the consumer, such that there will be no significant adverse impacts on their profitability. However, the proposed amendments may impose economic hardship on some businesses with very little or no margin of profitability.

F. Impacts on California Businesses, Consumers, and State and Local Agencies

Section 11346.3 of the Government Code requires State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative regulation. The assessment must include a consideration of the impact of the proposed amendments on California jobs; business expansion, elimination or creation; and the ability of California business to compete with businesses in other states.

1. Potential Impact on California Businesses

Our profitability analysis shows an insignificant change in the average profitability of affected businesses that manufacture consumer products and Aerosol Coating Products, if they absorbed the entire cost of compliance. We believe that these manufacturers will pass through at least a portion of their compliance costs to maintain profitability. To the extent that businesses are able to pass on the increased cost to consumers, the adverse impact of the proposed measures would be less than projected in this analysis. Furthermore, the projected impact will be less if businesses are able to improve their operational efficiency, thus reducing their costs.

Nonetheless, the proposed measures may impose economic hardship on some businesses with very little or no margin of profitability. These businesses can seek relief under the variance provisions of the consumer products and Aerosol Coating Products regulations for extensions to their compliance dates. Such extensions may provide sufficient time to minimize the cost impacts to these businesses.

2. Potential Impact on Business Creation, Elimination or Expansion

The proposed amendments would have no noticeable impact on the status of California businesses. This is because most affected businesses are expected to be able to pass on the bulk of the reformulation cost to consumers in terms of higher prices for their products. However, if any of the small California businesses that reported sales to us in the Surveys have little or no margin of profitability, they may lack the financial resources to reformulate their products on a timely basis. Should the proposed measures impose significant hardship on these businesses, temporary relief in the form of a compliance date extension under the variance provision may be warranted.

On the other hand, the proposed measures may provide business opportunities for some California businesses or result in the creation of new businesses. California businesses which supply raw materials and equipment or provide consulting services to affected industries may benefit from increased industry spending on reformulation.

3. Potential Impact on Business Competitiveness

The proposed measures would have no significant impact on the ability of California businesses to compete with businesses in other states. Because the proposed measures would apply to all businesses that manufacture or market certain consumer products regardless of their location, the staff's proposal should not present any economic disadvantages specific to California businesses.

Nonetheless, the proposed amendments may have an adverse impact on the competitive position of some small, marginal businesses in California if these businesses lack resources to develop commercially acceptable products in a timely manner. As stated above, such impacts can be mitigated to a degree with a justified compliance extension under the variance provisions of both the Consumer Products and the Aerosol Coating Products Regulations. For consumer products additional regulatory flexibility is afforded by the IPE or the ACP Regulation.

4. Potential Impact on California Employment

The proposed amendments are not expected to cause a noticeable change in California employment and payroll. As shown in Table VII-11, according to the U.S. Census Bureau, California employment in the industries affected by the proposed amendments was about 3,790 in 2011. This represents less than one percent of manufacturing employment in California. Also, as shown in Table VII-11, these employees generated about \$220 million in payroll. This also accounts for less than one percent of the total California manufacturing payroll in 2011.

Table VII-11
California Employment and Payroll in Affected Industries

NAICS	Number of Employees		Payroll	
	California	California Share as Percent of U.S.	California (thousand dollars in 2011)	California Share as Percent of U.S.
325510	2,297	6.6	122,944	6.3
325520	1,493	8.1	96,983	8.7
Total	3,790		219,927	

Source: (U.S. Census Bureau, 2011)

5. Impacts on California Consumers

The potential impact of the proposed amendments on consumers depends upon the ability of affected businesses to pass on the cost increases to consumers. Competitive market forces may prevent businesses from passing all of their cost increases on to consumers. Thus, we do not expect a significant change in retail prices. However, for

the proposed limits for some categories, businesses will likely be unable to absorb all their costs of doing business. They will likely pass some of their cost increases on to consumers.

Assuming the affected industry will pass on the entire compliance costs to consumers in terms of higher prices, we estimate the average cost per unit increase for an “Aerosol Adhesive” product would be less than \$0.27 for all “Aerosol Adhesive” categories, and \$0.42 for “Multi-purpose Solvent” and “Paint Thinner” products. Under the same assumption, we estimate the price for 95 percent of Aerosol Coating Products would increase by no more than \$0.53 per unit for all aerosol coating categories, except for “Electrical/Electronic/Conformal Coating” products. For very specialized niche products the cost increase would be from \$1.55 to \$28.22. The high end of this range is the cost for “Electrical/Electronic/Conformal Coating” products. These products are purchased by commercial or industrial consumers. We also believe our cost analysis over estimates the cost to comply because over 95 percent of products in this category are already in compliance with the proposed limit.

Apportioning annual sales of the categories to the number of California households, we estimated that households purchase less than three containers of Aerosol Coating Products and less than one container of aerosol adhesives and “Multi-purpose Solvent” and “Paint Thinner” products subject to the proposed regulations. We also estimated in Section B of this chapter that the potential cost increase per unit from compliance with the proposed VOC limits ranged from \$0.12 to \$0.42 for consumer products. The potential annual cost increase for almost all aerosol coatings would be no more than \$1.59.

The proposed amendments may also affect consumers adversely if they result in reduced performance attributes of the products. However, this scenario is unlikely to occur for the following reasons. First, for the proposed limits, there are already complying products with a market presence. Thus, the industry already has the technology to manufacture compliant products that satisfy consumers. Second, marketers are unlikely to introduce a product which does not meet their consumers’ expectations. This is because such an introduction would be damaging not only to the sale of the product, but also to the sale of other products sold under the same brand name (impairing so-called “brand loyalty”). Finally, the Board has provided flexibility, under the existing Consumer Products Regulation and Aerosol Coating Products Regulation, to businesses whose situations warrant an extension to their compliance dates. For companies that can justify such variances, the additional time may afford more opportunity to explore different formulation, cost-cutting, performance-enhancing, or other marketing strategies which can help make the transition to new complying products nearly transparent to consumers.

6. Potential Impacts to California State or Local Agencies

State agencies are required to estimate the cost or savings to any State or local agency and school district in accordance with instructions adopted by the Department of

Finance. The estimate shall include any non-discretionary cost or savings to local agencies and the cost or savings in federal funding to the State.

We have determined that the proposed limits will not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any State agency or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, or other nondiscretionary savings to local agencies.

G. Other Possible Economic Impacts of Regulatory Changes

In addition to the proposed mass-based VOC and reactivity-based PWMIR limits, there are other proposed amendments to both the Consumer Products Regulation and Aerosol Coating Products Regulation, most of which are administrative in nature. We do not expect these amendments to have any significant economic impact on affected businesses, because the proposed amendments modify existing requirements rather than add new requirements. While we do not expect any significant economic impact from any of the proposals, it is possible that there could be some negligible increased cost to business resulting from proposed changes.

H. Mitigation of Potential Impacts

If adopted by the Board, the proposed mass-based VOC limits will be incorporated in section 94509 of the Consumer Products Regulation (title 17, CCR, sections 94507-94517).

Manufacturers of consumer products can also comply with the proposed amendments through the use of the IPE which allows a product to exceed the VOC limit if it is clearly demonstrated that the “innovative” product will result in less VOC emissions than a complying product that meets the applicable VOC limit.

Manufacturers of consumer products can also comply with the proposed amendments through the use of the ACP which allows emissions averaging of various regulated products throughout their product lines.

If adopted by the Board, the proposed reactivity limits will be incorporated in section 94522 of the Aerosol Coating Products Regulation (title 17, CCR, sections 94520-94528). These limits provide additional flexibility to reformulate aerosol coatings because they allow for use of a greater number of ingredients in formulating.

Nevertheless, the proposed measures may impose economic hardship on some businesses with very little or no margin of profitability. These businesses, if needed, can

seek relief under the variance provisions in the regulations for extensions to their compliance dates. Such extensions may provide sufficient time to minimize the cost impacts to these businesses.

VIII. Summary and Rationale for Each Regulatory Provision

In this Chapter, we provide a description of the proposed amendments to the Regulation for Reducing Volatile Organic Compound Emissions from Antiperspirants and Deodorants (Antiperspirants and Deodorants Regulation), the California Regulation for Reducing Emissions from Consumer Products (Consumer Products Regulation), the California Regulation for Reducing the Ozone Formed from Aerosol Coating Product Emissions (Aerosol Coating Products Regulation), the Tables of MIR Values, and ARB Method 310 and explain the rationale for the amendments. Rationale for the proposed repeal of the Hairspray Credit Program is also described. It is intended to satisfy the requirements of Government Code 11343.2, which requires that a “plain English” summary of the regulation be made available to the public.

A. Antiperspirants and Deodorants

In this section, we provide a plain English description of the proposed amendments to the Antiperspirants and Deodorants Regulation along with the rationale for the amendments. The entire regulation is codified in Title 17, CCR, sections 94500-94506.5.

Summary of Proposed Amendments to Section 94501(m)

Staff is proposing to modify the definition of “Volatile Organic Compound” (VOC) to include an exemption for HFO-1234ze.

Rationale for Proposed Amendments to Section 94501(m)

ARB staff received a petition from Honeywell Corporation, requesting an exemption from the VOC definition for HFO-1234ze. U.S. EPA exempted HFO-1234ze on June 7, 2012. Staff evaluated the petition and determined that HFO-1234ze has a negligible contribution to tropospheric ozone formation, and is a nonflammable, low GWP, low reactive propellant. A multi-media evaluation of the health and environmental impacts of HFO-1234ze was conducted by ARB. No adverse health or environmental impacts were identified. The exemption would provide an additional reformulation option. Further information on the analysis is provided in Chapter III of this Staff Report.

Summary of Proposed Amendments to Section 94506

Section 94506 sets forth test methods to be used to determine the VOC content of an antiperspirant or deodorant. We are proposing to update the name of the test method by adding “and Reactive Organic Compounds in Aerosol Coating Products (ROC)” to the existing method title. We are also proposing to reference the most recent date of adoption (this rulemaking).

Rationale for Proposed Amendments to Section 94506

The proposed amendments would provide the current and correct name for ARB Method 310 and refer to the most recent effective date for the method, which would be, if these amendments are approved, the date of adoption.

B. Consumer Products

In this section, we provide a plain English description of the proposed amendments to the Consumer Products Regulation along with the rationale for the amendments. The regulation is codified in Title 17, CCR, sections 94507-94517.

1. Summary of Section 94508, Definitions

Section 94508 of the regulation defines all key terms used in the regulation that may not be in common use or which may potentially be ambiguous without a regulatory definition. Staff is proposing to modify or add a number of definitions. Because of the proposed definitional changes, subsections of section 94508(a) would also be renumbered. The proposed amendments to the definitions, along with the rationale for the proposals are set forth below, and reflect the proposed updated numerical order.

Summary of Proposed Amendments to Section 94508(a)(1)

Staff is proposing to reorganize the definitions pertaining to adhesive products by placing the individual adhesive subcategory definitions under the general “Adhesive” category definition. The existing subsections 94508(a)(3), (29), (32), (33), (34), (68), (101), (136), and (155), where individual adhesive subcategories are currently defined, would be deleted. In addition, staff is proposing to delete the term “refillable” from the definition of “Aerosol Adhesive.”

A definition for “Screen Printing Adhesive” as a new subcategory of “Special Purpose Spray Adhesive” is also proposed. These products would be defined as adhesives designed and labeled exclusively to hold garments or fabric in place during the screen printing process. Minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Section 94508(a)(1)

The proposed reorganizational change would clarify the various subcategories that meet the “Adhesive” category definition and make them easier to find. The proposed removal of the term “refillable” in the definition of “Aerosol Adhesive” would expand the definition by including both refillable and nonrefillable aerosol adhesives. We have become aware of a recycling process that would allow empty aerosol adhesive products to be returned for refilling. Therefore, the proposed modification to delete the term “refillable” from the definition of “Aerosol Adhesive” would provide an environmental benefit. However, deletion of this term does not mean that pressurized adhesive systems, such as larger tanks with spray hoses in which the entire product container is not hand-held, are considered aerosol adhesive products; they are not. Such products are likely subject to air district adhesive rules. These systems are typically placed on the ground or work surface.

Proposing a new subcategory of specialty aerosol adhesives, that is designed and labeled exclusively to be used in the screen printing process, is in response to stakeholders’ comments related to the feasibility of these products to meet the proposed lower VOC limits for “Mist Spray Adhesive” and “Web Spray Adhesive” products. To maintain these products’ unique attributes would require a higher VOC content. Additional minor nonsubstantive changes would help clarify the definitions and streamline the regulation.

Summary of Proposed Amendments to Section 94508(a)(6)

We are proposing to reorganize the definition of “Air Freshener” by placing the individual air freshener subcategories under the general “Air Freshener” category definition. The existing subsections 94508(a)(41), (43), and (134), where individual air freshener subcategories are currently defined, would be deleted. Staff is proposing to add the terms “liquids,” “semisolids,” “solids,” “aerosol” and “pump” to the “Air Freshener” definition. In addition, in the definition of “Dual Purpose Air Freshener/Disinfectant” staff would replace the term “product” with “Air Freshener,” and “represented on the product container” with “designed or labeled.” Minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Section 94508(a)(6)

The proposed reorganizational change would clarify the various subcategories that meet the “Air Freshener” category definition and make them easier to find. The “Air Freshener” definition provides examples of products that are included in the definition. Adding the terms “liquids,” “semisolids,” “solids,” “aerosol,” and “pump” would clarify that air fresheners in these forms are included. Replacing the term “product” with “Air Freshener,” and “represented on the product container” with “designed or labeled” in the definition for “Dual Purpose Air Freshener/Disinfectant” would make it consistent with how these terms are used in other definitions in the regulation. Additional minor nonsubstantive changes are intended for clarification purposes.

Summary of Proposed Amendments to Section 94508(a)(14)

In the definition of “Artist’s Solvent/Thinner” staff is proposing to delete the term “liquid,” and add the terms “with a capacity” and “exclusively and explicitly.”

Rationale for Proposed Amendments to Section 94508(a)(14)

Proposed changes to the definition of “Artist’s Solvent/Thinner” would clarify that all product forms are included. “Artist’s Solvent/Thinner” products are defined in the regulation to describe a type of product that is not regulated as a “Paint Thinner.” Adding the terms “exclusively and explicitly” strengthens the criteria to be met to qualify for the exemption. Other minor nonsubstantive changes would provide clarity.

Summary of Proposed Amendments to Section 94508(a)(31)

Staff is proposing to delete part (A) of the “Deodorant Body Spray” category definition.

Rationale for Proposed Amendments to Section 94508(a)(31)

We are proposing to delete part (A) of the “Deodorant Body Spray” definition because it expired on December 31, 2005, and is no longer relevant. Deleting outdated language would help streamline the regulation.

Summary of Proposed Amendments to Sections 94508(a)(43) and (a)(114)

Both “Fabric Protectant” and “Rubber/Vinyl Protectant” category definitions specifically exclude “Vinyl/Fabric/Leather/Polycarbonate Coating” products. Staff is proposing to add the term “Plastic” and remove the term “Polycarbonate” in the category name. In addition, staff is proposing to delete the expired portions of “Fabric Protectant” and “Rubber/Vinyl Protectant” category definitions. Other minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Sections 94508(a)(43) and (a)(114)

Changing the category name to “Vinyl/Fabric/Leather/Plastic Coating” is proposed to be consistent with the change proposed to the “Vinyl/Fabric/Leather/Plastic Coating” category definition in section 94521(a)(82) of the Aerosol Coatings Regulation. Part (A) of the “Fabric Protectant” and “Rubber/Vinyl Protectant” category definitions expired on December 31, 2008, and is no longer relevant. Deleting outdated language and other minor nonsubstantive modifications would help clarify and streamline the regulation.

Summary of Proposed Amendments to Section 94508(a)(53)

The “Footwear or Leather Care Product” category specifically excludes “Vinyl/Fabric/Leather/Polycarbonate Coating” products. Staff is proposing to add the term “Plastic” and remove the term “Polycarbonate” in the category name.

Rationale for Proposed Amendments to Section 94508(a)(53)

The proposed modification to change the category name to “Vinyl/Fabric/Leather/Plastic Coating” would provide consistency with the change proposed to the category definition for “Vinyl/Fabric/Leather/Plastic Coating” in section 94521(a)(82) of the Aerosol Coating Products Regulation.

Summary of Proposed Amendments to Section 94508(a)(58)

Staff is proposing to modify the definition of “General Purpose Cleaner” to specify that these products are designed to clean hard surfaces in home, garage, patio, commercial, or institutional environments. The “General Purpose Cleaner” category would include products that clean appliances, counters, walls, cabinets, or floors and products that claim to clean a variety of similar surfaces including plastics, stone, or metal. The proposed modifications would also specify that “Single Purpose Cleaner” products are not “General Purpose Cleaner” products. The proposed modified definition would become effective on January 1, 2015, and would be set forth in Part (B) of the definition.

Rationale for Proposed Amendments to Section 94508(a)(58)

Stakeholders have indicated that it has been unclear in the existing definition for “General Purpose Cleaner” if cleaners used in environments outside of kitchens, and products that claim to clean a variety of similar surfaces are considered “General Purpose Cleaners.” The proposed modifications are designed to clarify our intent. Staff is proposing to expand the definition by further describing the types of environments where “General Purpose Cleaners” are used, and is explicitly stating that “General Purpose Cleaner” includes products that claim to clean a variety of similar surfaces (such as a plastics cleaner). It has also been unclear that products designed to clean a single object, that may or may not have multiple parts, such as a bicycle, do not meet the definition of “General Purpose Cleaner.” Such a product would be a single purpose cleaner. To further clarify our intent staff is also proposing to define “Single Purpose Cleaner.”

Summary of Proposed Amendments to Section 94508(a)(59)

A minor modification to the definition of “General Purpose Degreaser” is proposed to specify that a “Single Purpose Degreaser” is not a “General Purpose Degreaser.” The proposed modified definition would become effective on January 1, 2015, and would be set forth in part (C).

Rationale for Proposed Amendments to Section 94508(a)(59)

Stakeholders have indicated that it has been unclear in the existing definition for “General Purpose Degreaser” as to whether products designed to degrease a single object, which may or may not have multiple parts, meet the definition of “General Purpose Degreaser.” Staff’s intent is that “General Purpose Degreasers” are products

designed to degrease a variety of objects and that products designed to degrease a single object are not. As such, staff is clarifying our intent by specifically stating that “Single Purpose Degreaser” products are not “General Purpose Degreasers.” For example a product that indicates on the label that it is suitable to degrease a variety of tools, chains, automotive parts, and “more,” would be a “General Purpose Degreaser.” However, a product labeled to degrease a single object, such as a lawn mower, even though it may have multiple parts, is a “Single Purpose Degreaser.” Such parts of a single object are not considered “miscellaneous metallic parts.” To further clarify our intent staff is also proposing to define “Single Purpose Degreaser.”

Summary of Proposed Amendments to Section 94508(a)(66)

Staff is proposing to add the term “Finishing” to the “Hair Spray” category name and minor modifications to reorganize the definition. Staff is also proposing to delete part (A) of the “Hair Finishing Spray” category definition. Due to the proposed change to the category name, the “Hair Finishing Spray” definition would also be moved from existing section 94508(a)(80) to section 94508(a)(66).

Rationale for Proposed Amendments to Section 94508(a)(66)

The proposal to modify the “Hair Spray” category name to “Hair Finishing Spray” and reorganize the definition would better clarify that the product is to be used to finish styled hair. Other hair spray products that do not finish the hair style would not be “Hair Finishing Spray” products. Part (A) of the “Hair Finishing Spray” category definition expired on December 30, 2006, and is no longer relevant. The proposal to delete the outdated language would help streamline the regulation. The proposal to move the definition would maintain the alphabetical order of section 94508.

Summary of Proposed Amendments to Section 94508(a)(68)

The “Hair Shine” definition specifically excludes “Hair Spray” and “Hair Styling Gel” products. Minor modifications to the “Hair Shine” category definition are proposed to add the term “Finishing” to the “Hair Finishing Spray” category name and delete the “Hair Styling Gel” category name.

Rationale for Proposed Amendments to Section 94508(a)(68)

These proposed modifications to the “Hair Shine” definition are designed to provide consistency with changes proposed to the “Hair Finishing Spray” definition in section 94508(a)(66). Deletion of the term “Hair Styling Gel” [previously defined in section 94508(a)(79)] would provide clarity. Such products are “Hair Styling Products.”

Summary of Proposed Amendments to Section 94508(a)(69)

Staff is proposing to delete the effective date of the “Hair Styling Product” category definition and add “No Rinse Shampoo” and “Thermal Protectant” to the list of products

that are not considered “Hair Styling Products.” The reference to “Hair Spray” would also be changed to “Hair Finishing Spray.”

Rationale for Proposed Amendments to Section 94508(a)(69)

We are proposing to delete the December 30, 2006, effective date of the “Hair Styling Product” definition because it is no longer relevant. Deleting this outdated language would streamline the regulation. Stakeholders have asked us to clarify whether “No Rinse Shampoo” and “Thermal Protectant” products are currently regulated as “Hair Styling Product.” The proposed amendment would explicitly state that they are not. Other proposals would define “No Rinse Shampoo” and “Thermal Protectant.” Modifying the term “Hair Spray” to “Hair Finishing Spray” would provide consistency with the change proposed to the “Hair Finishing Spray” definition in section 94508(a)(66).

Summary of Proposed Amendments to Section 94508(a)(76)

We are proposing to reorganize the definitions pertaining to insecticide products by placing the individual insecticide subcategories under the general “Insecticide” definition. Additional minor nonsubstantive changes are also proposed. The existing subsections 94508(a)(36), (56), (62), (89), (94), and (152), where individual insecticide subcategories are currently defined, would be deleted.

Rationale for Proposed Amendments to Section 94508(a)(76)

The proposed reorganizational change would clarify the various subcategories that are “Insecticide” products and make them easier to find. Additional minor nonsubstantive modifications are intended to further clarify the definition.

Summary of Proposed Amendments to Existing Section 94508(a)(79)

Staff is proposing to delete the existing “Hair Styling Gel” category definition.

Rationale for Proposed Amendments to Existing Section 94508(a)(79)

The “Hair Styling Gel” category definition expired on December 30, 2006, and is no longer relevant. Such products are considered “Hair Styling Products.” Deleting the outdated definition would streamline the regulation.

Summary of Proposed Amendments to Section 94508(a)(82)

Staff is proposing to modify several subcategories of lubricants. The definition of “Dry Lubricant” would be modified to explicitly state that “Dry Lubricants” are not subject to the requirements for any other regulated lubricant category. Staff is also proposing to modify the definitions of “Multi-purpose Lubricant” and “Silicone-based Multi-purpose Lubricant” to specify that lubricant products labeled solely for a single purpose are excluded. In addition, the definition for “Gear, Chain, or Wire Lubricant” would be

modified to specify that lubricants labeled solely for use on chains of chain-driven vehicles are not included. Other minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Section 94508(a)(82)

“Dry Lubricant” products are defined in the Consumer Products Regulation but are not subject to a VOC limit. Stakeholders have indicated that it is unclear whether a product meeting the definition of “Dry Lubricant” would be subject to any other lubricant requirements in situations where it would otherwise meet the definition of a lubricant subcategory. Our intent has always been that any “Dry Lubricant” regardless of function is exempt. ARB staff is proposing the modification to the definition for clarity.

The proposal to specify that lubricants labeled solely for a single purpose are not “Multi-purpose Lubricants” or “Silicone-based Multi-purpose Lubricants” would clarify that single purpose lubricants are exempt from these definitions. This has always been our intent. For example, a lubricant labeled solely for lubrication of garage doors is not a “Multi-purpose Lubricant.” The proposed amendment to the definition for “Gear, Chain, or Wire Lubricant” would clarify applicability. The other minor nonsubstantive changes would provide clarity and consistency of the definitions for various lubricant subcategories and the regulation in general.

Summary of Proposed Amendments to Section 94508(a)(88)

Staff is proposing several amendments to the existing definition of “Multi-purpose Solvent.” First, staff is proposing to delete existing subsection (A), which is an outdated definition that applies only to products manufactured before January 1, 2008.

Second, staff is proposing to amend existing subsection (B), which is the currently effective definition that applies to products manufactured on or after January 1, 2008. Staff’s proposed amendment would specify that that the current definition applies only to products manufactured before January 1, 2015.

Third, staff is proposing to delete the current third exclusion.

Fourth, staff is proposing to add the following new language (shown in underline below) to the last sentence of the current definition, which identifies five categories of products that are not included in the definition, and renumber it:

“... Multi-purpose Solvent “does not include ... 4. Except as provided in section 94509(p)(4), any product making any representation that the product may be used as, or is suitable for use as a consumer product which meets another definition in section 94508(a); such products are not “Multi-purpose Solvents,” and are subject to the “Most Restrictive Limit” provisions of section 94512(a).”

The new language refers to “section 94509(p)(4).” As explained later in this chapter, this is a new subsection that staff is proposing to add to the regulation.

Fifth, a new definition of “Multi-purpose Solvent” is proposed for products manufactured on or after January 1, 2015. The new definition provides that “Multi-purpose Solvent” means any product designed or labeled to be used for dispersing, dissolving, or removing contaminants or other organic materials, that does not display specific use instructions and/or does not display an end-use function or application on the label. Like the existing definition, the new definition also specifies that “Multi-purpose Solvent” includes (1) solvents used in institutional facilities; (2) products labeled as “Paint Clean-Up,” or products used to clean paint, lacquer, varnish, or related coatings from painting equipment or tools, plastics, or metals; (3) products labeled to prepare surfaces for painting. The proposed new definition further specifies that “Multi-purpose Solvent” includes products that display on the Principal Display Panel a specific chemical name such as mineral spirits, ketone, turpentine, toluene, xylene(s), acetone, naphtha, and alcohol.

As in the current definition, the new definition would continue to specify that “Multi-purpose Solvent” does not include solvents used in cold cleaners, vapor degreasers, conveyORIZED degreasers or film-cleaning machines; solvents for the clean-up of application equipment used for polyaspartic and polyurea coatings; products for cleaning a specific contaminant, on a single substrate; and reagents used in laboratories. Staff is proposing to expand the list of excluded products by also excluding “Rubbing Alcohol.” Also excluded would be products that are used exclusively for the thinning of “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings,” if both of the following criteria are met: (1) the Responsible Party for these thinning products must also manufacture “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings” for sale in California, and (2) the label for each thinning product must state the specific product or brand of the “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” for which the product is used.

Rationale for Proposed Amendments to Section 94508(a)(88)

First, subsection (A) of the “Multi-purpose Solvent” definition is an outdated definition that applies only to products manufactured before January 1, 2008. Deleting this outdated language would streamline the regulation.

Second, providing a January 1, 2015, “sunset date” for the currently effective definition of “Multi-purpose Solvent” is necessary to allow manufacturers adequate lead time to assess the potential impacts of staff’s proposed new definition on their current products, and to make any changes needed to accommodate the new definition. Changes may be necessary because, among other things, the new definition would include all product forms rather than just liquids. This change is proposed to recognize that other product forms of “Multi-purpose Solvent” are emerging into the marketplace. In addition, another proposed change (discussed later in this summary) would establish a VOC limit for aerosol “Multi-purpose Solvent.” The differences between the currently effective

definition and the new definition make it necessary to provide adequate lead time, which will be provided by specifying a January 1, 2015, effective date for the new definition.

Third, deleting the current third exclusion would streamline the regulation. This exclusion specified that solvents that are incorporated into or used exclusively in the manufacture or construction of the goods or commodities at the site of the establishment are not included. This language is redundant to the “Industrial and Institutional (I&I) Product” definition.

Fourth, the new language staff is proposing to add to the current definition of “Multi-purpose Solvent” would provide consistency with proposed new subsection 94509(p)(4)(A). Proposed new subsection 94509(p)(4)(A) contains new provisions that apply to nonaerosol “Multi-purpose Solvents” sold in the SCAQMD. A detailed discussion of these new provisions can be found later in this chapter. The proposed change to the current definition of “Multi-purpose Solvent” is necessary to avoid confusion by ensuring that the language in the last sentence of the current definition is consistent with the language in proposed new subsection 94509(p)(4)(A).

Fifth, there are several reasons why staff is proposing to add a new definition of “Multi-purpose Solvent” that would apply to products manufactured on or after January 1, 2015. The proposal to include in the “Multi-purpose Solvent” category products that display on the Principal Display Panel a specific chemical name is to clarify that these types of products are considered “Multi-purpose Solvents” even if they do not have other language on the label that states they are used for dispersing, dissolving, or removing contaminants or other organic materials. Such chemical names include mineral spirits, ketone, turpentine, toluene, xylene(s), acetone, naphtha, and alcohol. It has always been the intent of the regulation to include these products, and the proposed language would clarify that these products are included.

The proposal to exclude “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” thinning products is being made to clarify that these specialty thinning products are not regulated. However, to prevent misuse of the exemption through the simple expedient of adding product label claims, staff is proposing to include additional criteria that must be met before a product qualifies for the exemption. These additional criteria (described above) are necessary to prevent misuse of the exemption.

Other examples of products included or excluded from the “Multi-purpose Solvent” definition would provide additional details and help clarify the types of products considered to be a “Multi-purpose Solvent.” Finally, the formatting of the definition has been reorganized to improve clarity by making it easier to read.

Summary of Proposed Amendments to Section 94508(a)(91)

Staff is proposing a new definition for “No Rinse Shampoo” to specify that these products are designed or labeled solely to be applied to hair that is dry to clean, absorb oil, or eliminate odor, and are subsequently removed from the hair by combing, brushing, or toweling the hair. This would include liquid and aerosol products that perform this function. Aerosol products are often labeled as “Dry Shampoo.” These are “No Rinse Shampoo” products. However, “Dry Shampoo” products that claim to color the hair roots do not qualify as “No Rinse Shampoo” because these products would be regulated as “Temporary Hair Color” products.

Rationale for Proposed Amendments to Section 94508(a)(91)

Stakeholders have asked for clarification as to whether no rinse shampoo products are regulated as a “Hair Styling Product” or any other regulated hair care product. Our intent has always been that no rinse shampoo products are not regulated as long as they make no claims that would make them subject to any of the regulated hair care categories. Therefore, defining these products and excluding them from the “Hair Styling Product” definition would clarify our intent.

Summary of Proposed Amendments to Section 94508(a)(92)

Staff is proposing to define “Nonaerosol” as a product which is not an “Aerosol Product.”

Rationale for Proposed Amendments to Section 94508(a)(92)

The undefined term “Nonaerosol” has been used extensively in the Consumer Products Regulation. Defining the term as any product that is not an “Aerosol Product,” which is defined, would clarify the regulation.

Summary of Proposed Amendments to Section 94508(a)(99)

We are proposing that for products manufactured on or after January 1, 2015, a “Paint Thinner” would be any product (rather than liquid product) designed or labeled to reduce the viscosity of coating compositions or components, or a product that has the words “Paint Thinner,” “Lacquer Thinner,” “Thinner,” or “Reducer” on the label. The new proposed definition would include aerosol products that provide a seamless transition between finishes, except for “Uniform Finish Coatings” as would be defined in the Aerosol Coatings Regulation. As is currently the case, “Paint Thinner” manufactured on or after January 1, 2015, would continue to exclude “Artist’s Solvent/Thinner,” products labeled and used as an ingredient in a specific coating or coating brand line; and “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” thinning products. We are proposing to expand this list of excluded products by also including “Rubbing Alcohol.”

We are also proposing to modify the exemption criteria for “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” thinning products. As proposed, “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” thinning products would be excluded if the Responsible Party for these thinners also manufactures “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” products for sale in California and the name or brand of these specialty coatings is stated on the label of the thinning product.

Other minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Section 94508(a)(99)

Providing dates for when proposed revised part (A) and new part (B) would become effective would allow manufacturers the needed time to assess the impacts, if any, on their products and make any needed changes. As proposed, the revised definition of “Paint Thinner” would now include all product forms rather than just liquids. This change is proposed to recognize that other product forms of “Paint Thinner” are emerging into the market. Proposed modification to section 94509(a) would establish a VOC limit for aerosol “Paint Thinner.” Therefore, the definitional modification would be needed.

Products used to thin “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” products are currently excluded from the “Paint Thinner” definition. The new proposed language would continue the extension but strengthen the criteria to be able to qualify for the exemption. Such specialty thinners would be excluded if the Responsible Party also manufactures for sale in California “Industrial Maintenance Coatings,” “Zinc-Rich Primers,” or “High Temperature Coatings;” and the label states the specific product or brand of the “Industrial Maintenance Coating,” “Zinc-Rich Primer,” or “High Temperature Coating” for which the product is used.

Tightening exemption criteria would address any misuse of the exemption through mere additional labeling claims.

Other examples of products included or excluded from the “Paint Thinner” definition would provide additional details and help clarify the types of products considered to be a “Paint Thinner.” Additional minor nonsubstantive changes are proposed for the clarity and consistency of the definition and regulation in general.

Summary of Proposed Amendments to Section 94508(a)(122)

Staff is proposing a new definition for “Single Purpose Cleaner” to specify that these products are designed to clean only one object or its parts. However, a product that is labeled to clean a single appliance, counter, wall, cabinet or floor is a “General Purpose Cleaner.” “Single Purpose Cleaner” products are not currently subject to a VOC limit.

Rationale for Proposed Amendments to Section 94508(a)(122)

Stakeholders have requested that a clear distinction be made between “General Purpose Cleaner” *versus* “Single Purpose Cleaner” products. Therefore, staff is proposing to define “Single Purpose Cleaner” as a means to clarify that such a product is not regulated as a “General Purpose Cleaner.” By way of example, a product labeled to clean a yoga mat is a “Single Purpose Cleaner.” A cleaner that is labeled to clean a yoga mat but makes additional claims to clean other objects is a “General Purpose Cleaner.” However, a product that is labeled to clean a single kitchen surface, such as a floor or counter has always been considered a “General Purpose Cleaner.” The definition of “Single Purpose Cleaner” clarifies this intent.

Summary of Proposed Amendments to Section 94508(a)(123)

Staff is proposing a new definition for “Single Purpose Degreaser” products to specify that these products are designed to degrease only one object or its parts. “Single Purpose Degreaser” would not include “Adhesive Remover,” “Electrical Cleaner,” “Electronic Cleaner,” “Energized Electrical Cleaner,” “Engine Degreaser,” “General Purpose Cleaner,” “Metal Polish or Cleanser,” or “Oven or Grill Cleaner.” These products are separately regulated. “Single Purpose Degreaser” would also not include products used exclusively in “solvent cleaning tanks or related equipment,” or products that are (A) exclusively sold directly or through distributors to establishments which manufacture or construct goods or commodities; and (B) labeled exclusively for “use in the manufacturing process only.” “Solvent cleaning tanks or related equipment” includes, but is not limited to, cold cleaners, vapor degreasers, conveyORIZED degreasers, film cleaning machines, or products designed to clean miscellaneous metallic parts by immersion in a container. “Single Purpose Degreaser” products are not currently subject to a VOC limit.

Rationale for Proposed Amendments to Section 94508(a)(123)

Stakeholders have requested that a clear distinction be made between “General Purpose Degreaser” *versus* “Single Purpose Degreaser” products. Therefore, staff is proposing to define “Single Purpose Degreaser” as a means to clarify that such a product is not regulated as a “General Purpose Degreaser.” By way of example, a product labeled solely to degrease a motorcycle chain is a “Single Purpose Degreaser.” A degreaser that is labeled to degrease a motorcycle chain but makes additional claims to degrease other objects is a “General Purpose Degreaser.” As proposed the definition would also clarify the types of degreasing products that are not “Single Purpose Degreasers.”

Summary of Proposed Amendments to Section 94508(a)(127)

The “Temporary Hair Color” definition specifically excludes “Hair Spray” products. We are proposing to add the term “Finishing” in the “Hair Finishing Spray” category name.

Rationale for Proposed Amendments to Section 94508(a)(127)

The modification to add the term “Finishing” to “Hair Spray,” which is listed as an exemption within the “Temporary Hair Color” definition, would be consistent with the change proposed to the “Hair Finishing Spray” category definition in section 94508(a)(66).

Summary of Proposed Amendments to Section 94508(a)(129)

Staff is proposing a new definition for “Thermal Protectant” to specify that this is a product designed or labeled solely to be applied to the hair to protect it from heat damage during the use of heated tools such as blow drier, flat iron, and/or curling iron.

Rationale for Proposed Amendments to Section 94508(a)(129)

Stakeholders have asked for clarification as to whether thermal protectant products are regulated as “Hair Styling Product” or any other regulated hair care product. Our intent has always been that thermal protectant products are not regulated as long as they make no hair styling, shine, or any other claims that would make them subject to any of the regulated hair care categories. Therefore, defining these products and excluding them from “Hair Styling Product” definition would clarify our intent.

Summary of Proposed Amendments to Section 94508(a)(136)

Staff is proposing to add language to the definition of “Undercoating” to indicate that these products must be labeled exclusively to impart a protective, nonpaint layer to the undercarriage, trunk interior, and/or firewall or other parts of motor vehicles to prevent the formation of rust or to deaden sound. Staff is also proposing to specify that a product that claims to be an undercoating but makes claims to be suitable for additional uses is a “Flexible Coating,” as defined in section 94521(a)(31) of the Aerosol Coatings Regulation. The definition change would become effective on January 1, 2017, and would be designated part (B). The existing part (A) definition would continue to apply until January 1, 2017.

Rationale for Proposed Amendments to Section 94508(a)(136)

The proposed language modifications would clarify that “Undercoating” products are designed or labeled exclusively for application to various parts of motor vehicles including the undercarriage, trunk interior and/or firewall to prevent rust or deaden sound. The definition would further clarify that an undercoating product making any additional claims would be a “Flexible Coating” as defined in the Aerosol Coating Regulation in section 94521(a)(31). To allow manufacturers to make any needed changes, the proposed modification would become effective January 1, 2017.

Summary of Proposed Amendments to Section 94508(a)(138)

Staff is proposing to modify the definition of “Volatile Organic Compound” (VOC) to include an exemption for HFO-1234ze.

Rationale for Proposed Amendments to Section 94508(a)(138)

ARB staff received a petition from Honeywell Corporation, requesting an exemption from the VOC definition for HFO-1234ze. U.S. EPA exempted HFO-1234ze on June 7, 2012. Staff evaluated the petition and determined that HFO-1234ze has a negligible contribution to tropospheric ozone formation, and is a nonflammable, low GWP, low reactive propellant. A multi-media evaluation of the health and environmental impacts of HFO-1234ze was conducted by ARB. No adverse health or environmental impacts were identified. Based upon this review, ARB staff is proposing a VOC exemption for this compound. Further information on the analysis is provided in Chapter III of this Staff Report.

Summary of Proposed Amendments to Section 94508(a)(140)

Staff is proposing to add the term “nonaerosol” to the “Waterproofer” category definition. Staff is also proposing to add language to specify that aerosol products that meet the “Aerosol Coating Product” definition in section 94521(a)(2) and are designed or labeled exclusively to repel water from fabric or leather substrates, are “Vinyl/Fabric/Leather/Plastic Coating” products as defined in section 94521(a)(82).

Rationale for Proposed Amendments to Section 94508(a)(140)

Aerosol waterproofing products meet the definition of “Aerosol Coating” and are best described as “Vinyl/Fabric/Leather/Plastic Coatings,” as defined in section 94521(a)(82) of the Aerosol Coatings Regulation. The proposed modification would clarify that aerosol waterproofing products are subject to the Aerosol Coatings Regulation. Nonaerosol “Waterproofer” products are not subject to a VOC standard in the Consumer Product Regulation.

2. Summary of Section 94509, Standards for Consumer Products

Section 94509 sets forth the VOC standard for each regulated category along with the effective date of the limit. Various other requirements for consumer products, such as prohibitions on use of toxic compounds, limits of use of compounds with high GWP values, product labeling, and sell-through provisions are also included.

Summary of Proposed Amendments to Section 94509(a)

We are proposing to modify the Table of Standards in section 94509(a) to be consistent with the proposed amendments to category names in section 94508(a). In addition, staff

is proposing new or lower VOC standards for five consumer product categories. Specific VOC limits for “Multi-purpose Solvent” and “Paint Thinner” in SCAQMD are also proposed.

Aerosol Adhesives Proposed Modifications

For “Mist Spray Adhesive” and “Web Spray Adhesive” categories we are proposing to set lower VOC limits of 30 and 40 percent by weight, respectively. We are also proposing to set a VOC limit of 55 percent by weight for the new “Screen Printing Adhesive” aerosol adhesive category. As proposed, all of these limits would become effective on January 1, 2017.

Multi-purpose Lubricant Proposed Modifications

The existing Table of Standards sets forth a 10 percent by weight VOC limit for the “Multi-purpose Lubricant” category effective December 31, 2015. We are proposing to extend the effective date for this limit until December 31, 2018.

Multi-purpose Solvent and Paint Thinner Proposed Modifications

Adopted limits for “Multi-purpose Solvent” and “Paint Thinner” categories apply only to liquid product forms, because these products have been defined as “liquids.” As was described in section 1 of this chapter, we are proposing to modify these definitions to apply to all product forms. We are also proposing to specify VOC limits for aerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products. As such we are proposing to maintain the already adopted limits but specify that these limits apply to “nonaerosols.” Separate limits of 10 percent by weight VOC are proposed for aerosol forms of “Multi-purpose Solvent” and “Paint Thinner,” effective January 1, 2016.

Section 94509(a) would be further modified to specify provisions for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products that are sold, supplied, offered for sale or manufactured for use in the SCAQMD. The Table of Standards would reference section 94509(p)(4) where the proposed requirements would be set forth. The table would also explicitly state which standards apply statewide and which standards are only applicable within the SCAQMD. All of the proposed changes to the Table of Standards for these products are shown in Table VIII-1.

Other Proposed Modifications

Other minor nonsubstantive changes are also proposed to section 94509(a), including deleting the reference to the Hairspray Credit Program, reorganizing the location of some categories in the Table of Standards, and updating section numbers referenced in the Table of Standards for “Aerosol Adhesive,” “Multi-purpose Solvent,” and “Paint Thinner” categories.

**TableVIII-1
Standards for Multi-purpose Solvent and Paint Thinner Products**

<i>Product Category</i>	<i>Effective Date ¹</i>	<i>VOC Standard ² (Percent by Weight)</i>

Multi-purpose Solvent*		
- aerosol		
- standard for all areas of the State	<u>1/1/2016</u>	<u>10</u>
-----	-----	-----
nonaerosol		
- standards for the South Coast Air Quality Management District	<u>See section 94509(p)(4)</u>	
- standards for all other areas of the State	12/31/2010 12/31/2013	30 3
=====	=====	=====
[*See sections 94509(b)(1), (m)(1), (n), and (p); 94512(a)(1), (a)(4) and (e); 94513(g); and 94515(j) for additional requirements that apply to Multi-purpose Solvent.]		

Paint Thinner*		
aerosol		
- standard for all areas of the State	<u>1/1/2016</u>	<u>10</u>
-----	-----	-----
nonaerosol		
- standards for the South Coast Air Quality Management District	<u>See section 94509(p)(4)</u>	
- standards for all other areas of the State	12/31/2010 12/31/2013	30 3
=====	=====	=====
[*See sections 94509(b)(1), (m)(1), (n), and (p); 94512(a)(1), (a)(4) and (e); 94513(g); and 94515(j) for additional requirements that apply to Paint Thinner. See section 94510(m) for an exemption that applies to Paint Thinner.]		

¹ See section 94509(d) for the effective date of the VOC standards for products registered under FIFRA, and section 94509(c) and (d) for the "sell-through" allowed for products manufactured prior to the effective date of standards.

² See section 94510(c) for an exemption that applies to fragrances in consumer products, and section 94510(d) for an exemption that applies to LVP-VOCs.

Rationale for Proposed Amendments to Section 94509(a)

Aerosol Adhesives Proposed Modifications

The new and lower VOC standards proposed for three aerosol adhesive categories, “Mist Spray Adhesive,” “Web Spray Adhesive,” and “Screen Printing Adhesive” are necessary to achieve an additional reduction in VOC emissions. These limits were developed based on the review of data collected from the 2010 Survey as well as review of existing technologies, and were found to be commercially and technologically feasible. Upon the effective date the standards would result in a reduction of VOC emissions of about 0.3 tons per day. Further information on these aerosol adhesive categories is provided in Chapter IV of the Staff Report.

Multi-purpose Lubricant Proposed Modifications

The proposed delay of the 10 percent by weight VOC limit for “Multi-purpose Lubricant” products is based on the results of the 2011 technical assessment and stakeholder comments, and is necessary to address the challenges manufacturers are facing in reformulating “Multi-purpose Lubricant” products to meet this technology forcing limit. This proposal would delay a 1.3 tons per day emission reduction for three years.

Multi-purpose Solvent and Paint Thinner Proposed Modifications

The reorganization of the Table of Standards pertaining to provisions for aerosol and nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products provides clarity as to the regulation of these products. The table would also set forth new limits for aerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products. While these proposed standards would not result in significant emission reductions (about 0.1 tons per day), they are designed to level the playing field by regulating all forms of “Multi-purpose Solvent” and “Paint Thinner” products. To implement these proposed limits the table would be modified to indicate that the already adopted standards for the “Multi-purpose Solvent” and “Paint Thinner” categories of 30 percent and 3 percent by weight would apply to “nonaerosol” forms of these products. The table would also include provisions for “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD to reinforce the intent of their Rule 1143 pertaining to these products. The table would provide further clarity by explicitly stating which standards apply statewide *versus* those that are only applicable in the SCAQMD. The need for incorporating standards specific to products available in SCAQMD is described in Chapter IV of the Staff Report.

Other Proposed Modifications

The intent of other minor changes to section 94509(a) would reflect the proposed repeal of the Hairspray Credit Program, nonsubstantive changes proposed to sections 94509(b), 94509(n), 94509(p), and 94512(a), and improve the order, clarity, and consistency of the Table of Standards and regulation in general.

Summary of Proposed Amendments to Section 94509(b)(1)

The proposed modification to subsection 94509(b)(1), *Products that are diluted prior to use*, would add language specifying that for “Multi-purpose Solvent” and “Paint Thinner” products the limits in subsection 94509(a) shall apply prior to any recommended dilution. This proposed modification would become effective after January 1, 2015.

Rationale for Proposed Amendments to Section 94509(b)(1)

Currently, for all categories except “Automotive Windshield Washer Fluid (Dilutable),” the VOC limits apply to products only after the minimum recommended dilution has taken place. We have become aware of “Multi-purpose Solvent” products that prominently display a chemical name (consistent with the “Multi-purpose Solvent” definition) that have used this clause to avoid complying with SCAQMD Rule 1143. Therefore, this proposal would stem circumvention of this provision for “Multi-purpose Solvent” and “Paint Thinner” products, particularly in the SCAQMD. The proposed modification would clarify that VOC limits would apply to “Multi-purpose Solvent” and “Paint Thinner” products as packaged regardless of a minimum recommended dilution specified for these products.

Summary of Proposed Amendments to Sections 94509(i) and (k)

Minor nonsubstantive changes are proposed to sections 94509(i), *Requirements for aerosol adhesives*, and 94509(k), *Effective dates of the VOC limits for “Carburetor or Fuel-Injection Air Intake Cleaner” and “Construction, Panel or Floor Covering Adhesive,”* to update section references for aerosol adhesives and substitute the term “and” with “or” in the “Construction, Panel or Floor Covering Adhesive” category name.

Rationale for Proposed Amendments to Section 94509(i) and (k)

These minor nonsubstantive changes would provide consistency with proposed changes to section 94508(a).

Summary of Proposed Amendments to Section 94509(m)

Staff is proposing to prohibit use of methylene chloride, perchloroethylene, and trichloroethylene in “Screen Printing Adhesive,” “Single Purpose Cleaner,” “Single Purpose Degreaser,” and aerosol “Multi-purpose Solvent” and “Paint Thinner” products. Table 94509(m)(1), Product Categories in which Use of Methylene Chloride, Perchloroethylene, and Trichloroethylene is Prohibited, would be amended to reflect this. These proposed prohibitions would become effective on January 1, 2016, for aerosol “Multi-purpose Solvent” and “Paint Thinner,” and January 1, 2017, for “Screen Printing Adhesive,” “Single Purpose Cleaner,” “Single Purpose Degreaser.” Three year sell-through dates are proposed.

Rationale for Proposed Amendments to Section 94509(m)

The Consumer Products Regulation currently contains requirements limiting the use of methylene chloride, perchloroethylene, and trichloroethylene in existing “Aerosol Adhesive,” “General Purpose Cleaner,” “General Purpose Degreaser” and nonaerosol “Multi-purpose Solvent” and “Paint Thinner” categories. The proposal to prohibit methylene chloride, perchloroethylene, and trichloroethylene in “Screen Printing Adhesive,” “Single Purpose Cleaner,” “Single Purpose Degreaser,” and aerosol “Paint Thinner” and “Multi-purpose Solvent” categories would stem the use of these toxic compounds and provide consistency with requirements for similar products. Providing a three year sell-through provision for products manufactured prior to the effective date is a requirement of State law.

Summary of Proposed Amendments to Section 94509(n)

Staff is proposing to limit the use of compounds with higher GWP values in “Mist Spray Adhesive,” “Web Spray Adhesive,” “Screen Printing Adhesive,” aerosol “Multi-purpose Solvent,” and aerosol “Paint Thinner” products. As proposed these products would not be able to contain any compound with a GWP value of 150 or greater. Table 94509(n)(1), “Product Categories in which Use of Any Chemical Compound that has a Global Warming Potential (GWP) Value of 150 or Greater is Prohibited,” would be amended to reflect these proposals. For the three “Aerosol Adhesive” subcategories, the proposed change would have an effective date of January 1, 2017, and a sell-through date of January 1, 2020. Liquid “Multi-purpose Solvent” and “Paint Thinner” products were subject to a GWP limit of 150 beginning in 2010. To distinguish the different compliance dates for aerosol and liquid products we would indicate that the 2010 prohibition applies to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products. For aerosol “Multi-purpose Solvent” and “Paint Thinner” products the proposed change would have an effective date of January 1, 2016, and a sell-through date of January 1, 2019.

Rationale for Proposed Amendments to Section 94509(n)

These prohibitions on the use of global warming compounds with higher GWP values would ensure that use of compounds with GWP values greater than or equal to 150 does not begin as products are reformulated to meet proposed VOC limits.

Summary of Proposed Amendments to Section 94509(p)(1)

Staff is proposing to extend the 1 percent by weight “Aromatic Compound” content limit, in effect for liquid “Multi-purpose Solvent” and “Paint Thinner” products to aerosol “Multi-purpose Solvent” and “Paint Thinner” products. This proposal would be reflected in subsection 94509(p)(1), *Additional requirements for “Multi-purpose Solvent” and “Paint Thinner:” Aromatic Compound Content*. The provisions would also be bifurcated into aerosol and nonaerosol. The requirements for aerosol “Multi-purpose Solvent” and

“Paint Thinner” products are proposed to become effective January 1, 2016. Additional minor nonsubstantive clarification changes are proposed.

Rationale for Proposed Amendments to Section 94509(p)(1)

The Consumer Products Regulation contains a 1 percent by weight “Aromatic Compound” content limit for liquid “Multi-purpose Solvent” and “Paint Thinner” products that became effective December 31, 2010. In view of staff’s proposed changes to modify definitions of “Multi-purpose Solvent” and “Paint Thinner” to include aerosol products and establish a VOC limit, to ensure a level playing field it is appropriate to extend the one percent by weight limit for “Aromatic Compound” content to aerosol “Multi-purpose Solvent” and “Paint Thinner” products. To give manufacturers time to reformulate their products, the limit would become effective January 1, 2016. Other minor nonsubstantive changes are proposed for clarity and consistency of the regulation.

Summary of Proposed Amendments to Sections 94509(p)(2) and (p)(3)

Staff is proposing to modify subsections 94509(p)(2), *Sell-through of Products*, and 94509(p)(3), *Notification for products sold during the sell-through period*. Each of these subsections would be subdivided, with part (A) applying to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” and part (B) applying to aerosol “Multi-purpose Solvent” and “Paint Thinner.”

Rationale for Proposed Amendments to Sections 94509(p)(2) and (p)(3)

The proposed changes to sell-through provisions for “Aromatic Compound” content provisions for aerosol and nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products are necessary to reflect the different compliance schedules for aerosol and nonaerosol “Multi-purpose Solvent” and “Paint Thinner.” Other minor nonsubstantive changes would provide consistency within the regulation.

Summary of Proposed Amendments to Section 94509(p)(4)(A)

Staff is proposing to add a new subsection 94509(p)(4) that would set forth requirements that apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD. The proposed new subsection is titled “*Requirements for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the South Coast Air Quality Management District (SCAQMD).*”

Proposed new subsection 94509(p)(4)(A) would contain new language specifying how other provisions of the Consumer Products Regulation apply to nonaerosol products that meet the definition of “Multi-purpose Solvent” or “Paint Thinner” and are sold, supplied, offered for sale, or manufactured for use in the SCAQMD. The new language provides that such products do not meet the criteria for any other consumer product

category identified in ARB's Consumer Products Regulation, and do not qualify under a definition of any other consumer product category that is defined in section 94508(a) of the Consumer Products Regulation, regardless of any representation made that the product may be used as, or is suitable for use as another category of consumer product that is defined in section 94508(a). The effect of this proposed new language is that nonaerosol products meeting the definition of either "Multi-purpose Solvent" or "Paint Thinner" would not fall under any other consumer products category defined in section 94508(a) and would be regulated under SCAQMD Rule 1143, regardless of any representations that may be made on the product label, packaging, or elsewhere.

Rationale for Proposed Amendments to Section 94509(p)(4)(A)

"Multi-purpose Solvent" and "Paint Thinner" products sold, supplied, offered for sale, or manufactured for use in the SCAQMD are currently regulated under the existing provisions of both ARB's Consumer Products Regulation and SCAQMD Rule 1143¹.

However, there are differences between the two regulations that have allowed circumvention of Rule 1143 to occur in the SCAQMD, with the result that Rule 1143 has not achieved all of the emission reductions anticipated when Rule 1143 was adopted. Circumvention has been possible primarily because of how "Consumer Multi-purpose Solvents" is defined in Rule 1143. The definition in Rule 1143 includes the following sentence:

"... "Multi-purpose Solvents" also do not include any products making any representation that the product may be used as, or is suitable for use as a consumer product which qualifies under another definition in CCR Title 17, § 94508 as of the date of adoption."

This one sentence has allowed some manufacturers to circumvent Rule 1143 by changing the labels on their "Multi-purpose Solvent" products to add claims that the products may also be used as "General Purpose Degreasers," "General Purpose Cleaners," "General Purpose Adhesive Removers," or other product categories that are defined in section 94508 of ARB's Consumer Products Regulation. The impact of such label changes is that the re-labeled products no longer qualify as "Multi-purpose Solvents" under Rule 1143. In other words, the above language in Rule 1143 has created an unanticipated loophole; instead of reformulating their products to comply with the Rule 1143's VOC standards, some manufacturers have simply re-labeled their products so that the products are not subject to Rule 1143.

This language was apparently placed in Rule 1143 to be consistent with ARB's definition of "Multi-purpose Solvent" in ARB's Consumer Products Regulation. ARB's

¹ Rule 1143 is legally effective in the SCAQMD even though Health and Safety Code section 41712(f) establishes a limited preemption of local air district regulations that are different than ARB regulations. This limited preemption does not apply to Rule 1143 because it was adopted by the SCAQMD before ARB adopted VOC standards for Multi-purpose Solvents and Paint Thinners (See *W.M. Barr & Co. v. South Coast Air Quality Management District* (June 28, 2012) 207 Cal.App.4th 406, 143 Cal.Rptr.3d 403).

definition contains the following language, which is very similar to the problematic language in Rule 1143:

“... “Multi-purpose Solvent” does not include ... any product making any representation that the product may be used as, or is suitable for use as a consumer product which meets another definition in section 94508(a); such products are not “Multi-purpose Solvents” and are subject to the “Most Restrictive Limit” provisions of section 94512(a).”

However, SCAQMD’s attempt to achieve consistency with ARB’s Consumer Products Regulation has had unanticipated results because unlike Rule 1143, ARB’s regulation includes a “Most Restrictive Limit” provision in section 94512(a). The relevant portions of section 94512(a) state:

“... if anywhere on the container or packaging of any consumer product ... any representation is made that the product may be used as, or is suitable for use as a consumer product for which a lower VOC limit is specified in Section 94509(a), then the lowest VOC limit shall apply.”

The purpose of the “Most Restrictive Limit” provision is to prevent product manufacturers from circumventing ARB’s regulation by re-labeling their products. For example, a nonaerosol “General Purpose Degreaser” is currently subject to a 0.5 percent by weight VOC limit in ARB’s Consumer Products Regulation, whereas a “Bug and Tar Remover” is subject to a much less stringent 40 percent by weight VOC limit. If a manufacturer makes a degreasing product containing 30 percent by weight VOC and does not want to incur the expense of reformulating the product to meet a 0.5 percent by weight VOC limit, the manufacturer might attempt to avoid reformulation by simply re-labeling the product as a “Bug and Tar Remover” while simultaneously representing on the product label that the product is also suitable for use as a general purpose degreaser. The “Most Restrictive Limit” provision is designed to prevent such attempted circumvention by ensuring that a product claiming it may be used as a general purpose degreaser is subject to the lower 0.5 percent by weight VOC limit for “General Purpose Degreaser,” instead of the less stringent 40 percent by weight VOC limit for “Bug and Tar Remover.”

However, Rule 1143 does not have a “Most Restrictive Limit” provision; it is not needed because unlike ARB, SCAQMD does not have numerous VOC standards for multiple consumer product categories. The result is that language in ARB’s Consumer Products Regulation that is designed to prevent circumvention is actually being used to circumvent the requirements of Rule 1143. ARB never intended for this language to be interpreted in this way, because the purpose of the language is to prevent circumvention, not make it easier. To correct misinterpretation of the language from ARB’s Consumer Products Regulation - language that has been copied by the SCAQMD and placed in Rule 1143 - ARB is proposing to clarify that products sold, supplied, offered for sale, or manufactured for use in the SCAQMD that meet the definition of “Multi-purpose Solvent” or “Paint Thinner,” do not meet the criteria for any

other consumer product category identified in ARB's Consumer Products Regulation, and do not qualify under a definition of any other consumer product category that is defined in section 94508(a) of ARB's Consumer Products Regulation, regardless of any representation made that the product may be used as, or is suitable for use as another category of consumer product that is defined in section 94508(a).

The effect of this proposed new language is that products meeting the definition of "Multi-purpose Solvent" or "Paint Thinner" would not fall under any other consumer products category defined in section 94508(a) and would be regulated under SCAQMD Rule 1143, regardless of any representations that may be made on the product label, packaging, or elsewhere. This should prevent language derived from ARB's Consumer Products Regulation from being interpreted to allow circumvention of Rule 1143, and should thus help insure that the expected emission reduction benefits from Rule 1143 are fully achieved.

Summary of Proposed Amendments to Section 94509(p)(4)(B) through (p)(4)(E)

Proposed new subsection 94509(p)(4)(B) would set forth the following VOC limits for nonaerosol "Multi-purpose Solvent" and "Paint Thinner" products sold, supplied, offered for sale, or manufactured for sale in the SCAQMD as follows:

- a 30 percent by weight VOC standard, effective December 31, 2010, as tested pursuant to section 94515(a)-(i), as set forth in ARB Method 310;
- a 3 percent by weight VOC standard, effective December 31, 2013, as tested pursuant to section 94515(a)-(i), as set forth in ARB Method 310; and
- a VOC standard of 25 g/L or 0.21 lb/Gal, effective January 1, 2015, as tested pursuant to section 94515(j).

As proposed, both the VOC standard of 25 g/L (0.21 lb/Gal) and the 3 percent by weight VOC standard will be applicable in the SCAQMD beginning January 1, 2015. In addition, proposed new subparts (C), (D), and (E) would specify that all of the following provisions would apply to nonaerosol "Multi-purpose Solvent" or "Paint Thinner" products sold, supplied, offered for sale, or manufactured for use in the SCAQMD:

- provisions in sections 94509(m)(1) pertaining to prohibitions on use of specific toxic compounds [proposed subpart (C)];
- section 94509(n) pertaining to prohibition on use of compounds with GWP values greater than 150 [proposed subpart (C)];
- section 94509(p)(1),(2) and (3) pertaining to limiting aromatic content to no more than 1 percent by weight [proposed subpart (C)];
- section 94512(a)(4) pertaining to the "Most Restrictive Limit" provision [proposed subpart (C)];
- section 94512(e) pertaining to labeling [proposed subpart (C)];
- proposed subpart (D) pertaining to sell-through of noncomplying products; and
- proposed subpart (E) pertaining to notification of sale of sell-through products.

Rationale for Proposed Amendments to 94509(p)(4)(B) through (p)(4)(E)

To ensure that nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD meet all of the requisite VOC limits proposed subpart (B) would contain both ARB’s VOC limits and the SCAQMD’s VOC limit of 25 g/L. Including the SCAQMD limit within the ARB’s regulation would help to further stem the circumvention described above and improve clarity, because the 25 g/L VOC limits for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” sold, supplied, offered for sale, or manufactured for use in the SCAQMD would be uniform in both SCAQMD Rule 1143 and ARB’s Consumer Products Regulation.

Additional proposed new subparts (C), (D), and (E) would specify that all other relevant provisions of the Consumer Products Regulation pertaining to “Multi-purpose Solvent” and “Paint Thinner” would continue to apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” sold, supplied, offered for sale, or manufactured for use in the SCAQMD. These are not new provisions, they would just be reiterated within a single subsection for clarity and to make them easier to find.

Proposed subpart (C) would reiterate that as of December 31, 2010, nonaerosol products may not contain methylene chloride, perchloroethylene, or trichloroethylene [section 94509(m)]; compounds with GWP values of 150 or greater [section 94509(n)]; or aromatic compounds in excess of 1 percent by weight [section 94509(p)(1)]. Such products must also comply with labeling provisions to alert end-users of potential flammability hazards as of December 31, 2010 [section 94512(e)].

Proposed subpart (C) would also specify that a new provision proposed in section 94512(a)(4) within the “Most Restrictive Limit” clause would apply. Proposed new section 94512(a)(4) within the “Most Restrictive Limit” clause would reinforce section 94509(p)(4)(A) by specifying that the “Most Restrictive Limit” provision does not apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” sold, supplied, offered for sale, or manufactured for use in the SCAQMD.

Proposed new subpart (D) related to sell-through and (E) related to providing notification for products sold within the last 6 month of the sell-through time period are not new provisions. They are restated here for clarity and to make them easier to find.

3. Summary of Section 94512, Administrative Requirements

Among other things, section 94512 contains the “Most Restrictive Limit” provision and product dating requirements for all regulated categories. Additional labeling and requirements for a number of categories are also included.

Summary of Proposed Amendments to Sections 94512(a)(1) – (a)(3)

We are proposing to delete the expired subsection 94512(a)(1) and expired portion of subsection 94512(a)(2) of the “Most Restrictive Limit” provision, and renumber subsections 94512(a)(2) through (a)(3). Renumbered part (1) would reference a new subpart (4) pertaining to “Multi-purpose Solvent” and “Paint Thinner” products available in SCAQMD. Other minor nonsubstantive changes are also proposed.

Rationale for Proposed Amendments to Sections 94512(a)(1) – (a)(3)

Subsection 94512(a)(1) and part of subsection 94512(a)(2) of the “Most Restrictive Limit” provision expired on December 31, 2007, and are no longer relevant. Deleting outdated language would help streamline the regulation. The reference to a newly proposed section 94512(a)(4) is necessary to implement that proposed change. Additional minor nonsubstantive changes are proposed for existing subsections 94512(a)(2) through (a)(3) for clarity and consistency of the regulation, and would ensure the correct numbering order of subsections.

Summary of Proposed Amendments to Section 94512(a)(4)

Staff is proposing to add a new subsection 94512(a)(4), to specify that the “Most Restrictive Limit” provisions in subsections 94512(a)(1), (a)(2) and (a)(3) do not apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD.

Rationale for Proposed Amendments to Section 94512(a)(4)

The purpose of proposed new subsection 94512(a)(4) is to reflect and be consistent with language proposed in new subsection 94509(p)(4)(A), which would specify that “Paint Thinner” and “Multi-purpose Solvent” products sold in SCAQMD do not meet the criteria for any other consumer product category identified in ARB’s Consumer Products Regulation, and do not qualify under a definition of any other consumer product category that is defined in section 94508(a) of the regulation, regardless of any representation made that the product may be used as, or is suitable for use as another category of consumer product that is defined in section 94508(a). The purpose of new subsection 94509(p)(4)(A) was explained previously in this chapter, and the new language in subsection 94512(a)(4) is necessary to insure that “Most Restrictive Limit” provisions in Consumer Products Regulation are consistent with new subsection 94509(p)(4)(A) for products sold in the SCAQMD.

Summary of Proposed Amendments to Section 94512(e)(1)

The current provisions prohibiting the sale of flammable or extremely flammable “Multi-purpose Solvent” or “Paint Thinner” products unless specifically labeled to warn the consumer of the potential hazard are scheduled to sunset on December 31, 2015. We are proposing to extend these safety labeling provisions until December 31, 2017. An

additional nonsubstantive change is proposed to substitute the term “Principle” with “Principal.”

Rationale for Proposed Amendments to Section 94512(e)(1)

Section 94512(e)(1) prohibits the sale of flammable or extremely flammable “Multi-purpose Solvent” or “Paint Thinner” products unless certain labeling criteria are met. This provision is scheduled to sunset on December 31, 2015. At the time this provision was put in place, it applied to only liquid forms of “Multi-purpose Solvent” and “Paint Thinner” products. Because we are now proposing to regulate aerosol forms of “Multi-purpose Solvent” and “Paint Thinner” products, as a safety precaution, staff is proposing to extend until December 31, 2017, these safety labeling provisions. This proposal is designed to ensure that, should aerosol “Multi-purpose Solvent” and “Paint Thinner” products be reformulated to increase the product’s flammability the consumer would be warned that the product is different. This warning would be especially necessary for products containing large amounts of acetone. While most aerosol forms of these products are already labeled as ‘flammable’ because they are formulated with flammable propellants, extending the date where this warning label is required would provide additional protection. As proposed, the safety labeling provisions would apply to all forms (aerosol and nonaerosol) of “Multi-purpose Solvent” and “Paint Thinner” products until December 31, 2017. Other nonsubstantive changes would correct a spelling error.

Summary of Proposed Amendments to Section 94512(e)(2)

Subsection 94512(e)(2) would be modified to add the language “excluding the company name, brand name, and logo.” Additional minor nonsubstantive changes are proposed to correct a spelling error and substitute the term “panel” with “Principal Display Panel.”

Rationale for Proposed Amendments to Section 94512(e)(2)

Section 94512(e)(2) sets forth specific labeling requirements that are designed to warn the end user of the “Multi-purpose Solvent” or “Paint Thinner” product that the product is flammable. The labeling requirements are to appear prominently on the Principal Display Panel in a font size as large, or larger than any other words. We have been asked to clarify whether a company’s name, brand name, or logo is to be used to determine the applicable font size. This proposed modification would clarify that the font size of the company name, brand name, or logo are excluded from determining the proper font size for the “Flammable” or “Extremely Flammable” labeling requirement. Other nonsubstantive changes would improve clarity.

4. Summary of Section 94513, Reporting Requirements

Summary of Proposed Amendments to Section 94513(f)(2)

The current date for Responsible Parties to submit data for “Multi-purpose Lubricant” products specified in subsection 94513(f)(2), *Special Requirements for Multi-purpose Lubricant and Penetrant products*, is March 31, 2014. We are proposing to extend the date to submit data on their efforts to comply with the 10 percent by weight VOC limit from March 31, 2014, to March 31, 2017. We are also proposing that product sales and composition data to be submitted for the year 2016 instead of the currently stated 2013.

Rationale for Proposed Amendments to Section 94513(f)(2)

The amendments proposed for adoption in this rulemaking include the delay of the effective date of the 10 percent by weight VOC limit for “Multi-purpose Lubricant” from December 31, 2015, to December 31, 2018. In view of this proposal, amendments to section 94513(f)(2) would delay the existing reporting requirements for “Multi-purpose Lubricant” products. As proposed, “Multi-purpose Lubricant” manufacturers would need to supply detailed written updates on their research and development efforts to achieve compliance with the future 10 percent by weight VOC limit in addition to sales, formulation data, raw materials, testing protocols, testing results and reformulation costs on March 31, 2017, for the 2016 calendar year. By extending the date staff would get better information on the research and development efforts conducted to meet the 10 percent by weight VOC limit.

5. Summary of Section 94515, Test Methods

Section 94515 sets forth test methods to be used to determine VOC and GWP compound content for all consumer product categories, and “Aromatic Compound” content for “Multi-purpose Solvent” and “Paint Thinner” products.

Summary of Proposed Amendments to Section 94515(a)(1) and (2)

We are proposing to amend subpart (1) of section 94515(a), *VOC and GWP compound content determination using ARB Method 310*, to add “(ROC)” to the title of “Method 310, Determination of Volatile Organic Compound (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products.” In addition, we are proposing to delete “September 29, 2011,” (the date the method was last amended), and replace it with an “adoption date” placeholder. Subpart (2) reproduces sections 3.5, 3.6, and 3.7 of the ARB Method 310. Section 3.6 would be modified to state that after January 1, 2015, the determination of LVP-VOC status does not apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” sold, supplied, offered for sale, or manufactured for sale SCAQMD. We are also proposing changes to the reproduced ARB Method 310 section 3.6.1 to delete the part “as modified in Appendix B to this Method 310,” and to delete the entire section 3.6.3.

Rationale for Proposed Amendments to Section 94515(a)(1) and (2)

The proposed change to the name for ARB Method 310 and the date the method was last amended would update the method title and reflect the most recent amendments. The proposed change to section 3.6 is necessary to clarify that the LVP-VOC exemption does not apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” sold, supplied, offered for sale, or manufactured for use in SCAQMD after January 1, 2015. Proposed changes to reproduced sections of the ARB Method 310 would reflect the changes proposed to sections 3.6.1 and 3.6.3 in the actual ARB Method 310 language, which are further described below in section F of this chapter.

Summary of Proposed Amendments to Section 94515(c)

We are proposing to add “(ROC)” to the title of “Method 310, Determination of Volatile Organic Compound (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products.” In addition, we are proposing to delete “September 29, 2011,” (the date the method was last amended), and replace it with “adoption date” to reflect updates proposed in this rulemaking.

Rationale for Proposed Amendments to Section 94515(c)

The proposed change to the name for ARB Method 310 and the date the method was last amended would update the method title and reflect the most recent amendments.

Summary of Proposed Amendments to Section 94515(j)

Staff is proposing to add subsection 94515(j) to specify the test method and the equation to determine final VOC content that would be used to determine compliance for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD. The procedure would become effective on January 1, 2015. Testing procedures would mirror those in the SCAQMD’s Rule 1143 (already part of Method 310). VOC content would be reported in g/L. The LVP-VOC exemption would not apply, however, an exemption would be provided for methyl esters with 17 or more carbon atoms. Any amounts of methyl esters with 17 or more carbon atoms content would be subtracted prior to determining final VOC content. The equation for determining final VOC content is reproduced from Method 310 below and would be reproduced in section 94515(j). It is not shown in strikeout/underline format for clarity.

Effective January 1, 2015, for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD, grams of VOC per liter of material (g/L) shall be calculated using the following equation:

$$\text{g/L VOC} = \frac{\text{WM} \times (\text{TV} - \text{H} - \text{EL})}{\text{VM}}$$

Where:

WM	=	weight of the material in grams.
VM	=	volume of the material in liters.
TV	=	weight fraction of total volatile material.
H	=	weight fraction of water.
EL	=	weight fraction of exempt compounds including methyl esters with 17 or more carbon atoms.

Rationale for Proposed Amendments to Section 94515(j)

Because staff is proposing to incorporate the SCAQMD Rule 1143 limits for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products into the Consumer Products Regulation, it is also necessary to specify a test method to be used to determine compliance that would be consistent with the test method specified in Rule 1143. Method 310 already contains consistent testing procedures for these products (U.S. EPA Reference Method 24, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings: 40 Code of Federal Regulations (CFR) Part 60, Appendix A, as it existed on September 11, 1995). Therefore, Method 310 would be used. Equivalent methods to determine water content and exempt VOC compound content (such as acetone, methyl acetate, and other exempt VOC specified in section 94508(a)) are also already included in Method 310. However, the reason for the need to set forth a separate subsection is because final VOC content is determined in “grams per liter,” rather than “percent by weight.” In addition, there would be no need to determine LVP-VOC content because this exemption does not apply. However, SCAQMD recognizes methyl esters with 17 or more carbon atoms as nonvolatile compounds. As proposed in Method 310, and as shown in the equation above, an analysis for methyl esters with 17 or more carbon atoms would be conducted using standard procedures in Method 310 and any amounts of methyl esters with 17 or more carbon atoms present in nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products would be subtracted prior to determining final VOC content. The date specified for the procedures to become effective would mirror the effective date of the proposed VOC limit, January 1, 2015.

C. Proposed Amendments to the Aerosol Coating Products Regulation

In this section, we provide a plain English description of the proposed amendments to the Aerosol Coating Products Regulation along with the rationale for the amendments. The regulation is codified in Title 17, CCR, sections 94520-94528.

1. Summary of Section 94520, Applicability

Summary of Proposed Amendments to Section 94520

We are proposing to add language to state that all Aerosol Coating Products are regulated unless specifically exempted.

Rationale for Proposed Amendments to Section 94520

The Aerosol Coatings Regulation has always applied to any person who sells, supplies, offers for sale, applies, or manufactures Aerosol Coating Products for use in California. However, stakeholders have raised questions as to whether certain aerosol coatings are regulated. This amendment would clarify the regulation by explicitly stating that the regulation applies to all aerosol coatings, unless the coating is explicitly exempted in section 94523.

2. Summary of Section 94521, Definitions

This section provides a summary and rationale for proposed definitional changes. It has numerous instances of renumbering due to additions and deletions of definitions. For this section, the references cited refer to the section of the proposed amendment (*i.e.* the renumbered definition), unless otherwise noted.

Summary of Proposed Amendments to Section 94521(a)(1)

We are proposing to amend the definition of “Adhesive” by specifying that an adhesive bonds one surface to another by attachment.

Rationale for Proposed Amendments to Section 94521(a)(1)

The proposed change would make the definition of “Adhesive” more consistent with the Consumer Products Regulation.

Summary of Proposed Amendments to Section 94521(a)(2)

We are proposing to add language to clarify that an aerosol coating is packaged in an aerosol container and that other coating solids in addition to pigments or resins may be included in the product. We are also specifying that the definition of “Aerosol Coating Product” does not include products subject to the Consumer Products Regulation or the Antiperspirants and Deodorants Regulation.

Rationale for Proposed Amendments to Section 94521(a)(2)

It has always been our intent that a specific consumer product is only subject to one regulation. This proposed modification would explicitly state our intent. Other proposed changes would clarify the definition of “Aerosol Coating Product”.

Summary of Proposed Amendments to Section 94521(a)(3)

We are proposing a new definition for “Antimicrobial Compound,” and would define it as any ingredient added to an “Aerosol Coating Product” exclusively to prevent microbial growth or product spoilage.

Rationale for Proposed Amendments to Section 94521(a)(3)

As water-based aerosol coating technology advances, the use of additives designed to inhibit microbial growth is increasing. Stakeholders requested that we define “Antimicrobial Compound.” The definition would provide clarity because we are also proposing that compounds meeting this definition are not counted toward the PWMIR content.

Summary of Proposed Amendments to Section 94521(a)(4)

We are proposing to modify the “Anti-Static Spray” category name and redefine it as a product that is designed and labeled to eliminate, prevent, or inhibit the accumulation of static electricity.

Rationale for Proposed Amendments to Section 94521(a)(4)

The proposed language would provide consistency with the Consumer Products Regulation.

Summary of Proposed Amendments to Section 94521(a)(5), (a)(7), (a)(8), (a)(9), (a)(10), (a)(14), (a)(18), (a)(21), (a)(22), (a)(24), (a)(25), (a)(26), (a)(29), (a)(32), (a)(33), (a)(36), (a)(37), (a)(38), (a)(39), (a)(43), (a)(47), (a)(50), (a)(51), (a)(52), (a)(53), (a)(55), (a)(59), (a)(60), (a)(61), (a)(62), (a)(64), (a)(72), (a)(74), (a)(75), (a)(76), (a)(82), (a)(83), (a)(85), (a)(86), and (a)(87)

We are proposing minor amendments to many definitions to replace the term “coating” with the term “Aerosol Coating Product.” Additionally, minor nonsubstantive wording modifications are proposed in a number of these definitions. A number of these definitions are also proposed for further modification and are described separately in this section.

Rationale for Proposed Amendments to Section 94521(a)(5), (a)(7), (a)(8), (a)(9), (a)(10), (a)(14), (a)(18), (a)(21), (a)(22), (a)(24), (a)(25), (a)(26), (a)(29), (a)(32), (a)(33), (a)(36), (a)(37), (a)(38), (a)(39), (a)(43), (a)(47), (a)(50), (a)(51), (a)(52), (a)(53), (a)(55), (a)(59), (a)(60), (a)(61), (a)(62), (a)(64), (a)(72), (a)(74), (a)(75), (a)(76), (a)(82), (a)(83), (a)(85), (a)(86), and (a)(87)

These minor proposed changes would increase consistency within the regulation and provide clarity. Use of the term “Aerosol Coating Product” in the definition would allow manufacturers to refer to this definition to determine applicability.

Summary of Proposed Amendments to Section 94521(a)(6)

We are proposing to update the definition of “ASTM,” formerly known as the American Society for Testing and Materials, to indicate that it means ASTM International.

Rationale for Proposed Amendments to Section 94521(a)(6)

The proposed modification would update the definition to refer to the proper testing society.

Summary of Proposed Amendments to Section 94521(a)(7)

We are proposing to delete language in the definition of “Auto Body Primer” that refers to these products as automobile primer or primer surface coating. Other nonsubstantial changes are proposed.

Rationale for Proposed Amendments to Section 94521(a)(7)

Deletion of this language would streamline the definition because it is redundant.

Summary of Proposed Amendments to Existing Section 94521(a)(8)

We are proposing to delete the definition for “Automotive Underbody Coating.”

Rationale for Proposed Amendments to Existing Section 94521(a)(8)

A definition for “Automotive Underbody Coating” has been included in the regulation to describe a type of product that is not subject to the regulation. Such products have been regulated within the Consumer Products Regulation as “Undercoatings.” Because of other proposals to define and regulate “Flexible Coating” products within the Aerosol Coating Products Regulation the definition of “Automotive Underbody Coating” is no longer needed. Deleting the definition would streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(12)

We are proposing minor wording changes to the definition of “Belt Dressing” to describe them as products to be applied to all vehicle belts rather than just automotive belts.

Rationale for Proposed Amendments to Section 94521(a)(12)

The term “Belt Dressing” has been defined to describe products that are not subject to the regulation. The intent of the regulation has always been to exempt “Belt Dressing” products designed for use on all vehicles, not just automobiles. This modification would clarify our intent.

Summary of Proposed Amendments to Section 94521(a)(14)

We are proposing minor modifications to the definition of “Clear Coating” to indicate such coatings provide a colorless or transparent finish.

Rationale for Proposed Amendments to Section 94521(a)(14)

This modification would provide clarity.

Summary of Proposed Amendments to Section 94521(a)(15)

We are proposing a new definition for “Coating,” and would define it as a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes.

Rationale for Proposed Amendments to Section 94521(a)(15)

The term “Coating” is frequently used in the regulation but is not currently defined. Providing a definition would clarify the regulation. Adding this term, however, would in no way change or add to the types of products considered to be aerosol coatings.

Summary of Proposed Amendments to Section 94521(a)(16)

We are proposing minor modifications to the definition of “Coating Solid” by redefining them as any nonvolatile ingredient of an aerosol coating.

Rationale for Proposed Amendments to Section 94521(a)(16)

The existing definition of “Coating Solid” defined it as the film forming ingredients including pigments or resins. However, other ingredients added to aerosol coating formulations are solids and, therefore are also nonvolatile compounds. This change would provide clarity in the calculation of the PWMIR and thereby improve enforceability.

Summary of Proposed Amendments to Existing Section 94521(a)(21)

We are proposing to delete the definition for “Enamel.”

Rationale for Proposed Amendments to Existing Section 94521(a)(21)

We are proposing to delete the definition of enamel because it is no longer needed. Deleting this unnecessary definition would streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(21)

Staff is proposing to modify the “Electrical Coating” category name and definition, to “Electrical/Electronic/Conformal Coating.” The definition would be expanded to include electrical, electronic, and conformal coatings.

Rationale for Proposed Amendments to Section 94521(a)(21)

“Electrical Coating” has been defined to describe a type of product that is not subject to the regulation. However data now show that the exemption is no longer needed. Data also show that conformal coating products and electrical coating products are similar and are applied to similar substrates. Thus defining all of these products as a single category is appropriate, rather than defining them separately. Another proposal in section 94522 would establish a Reactivity Limit for this combined category.

Summary of Proposed Amendments to Section 94521(a)(22)

The definition for “Engine Paint” is provided in the regulation to define products that are not “High temperature Coating” products. We are proposing to change the name of the category from “Engine Paint” to “Engine Coating.”

Rationale for Proposed Amendments to Section 94521(a)(22)

This minor change would provide consistency with other category names.

Summary of Proposed Amendments to Section 94521(a)(23)

A new definition is proposed for “Exact Match Finish” that includes all criteria common to, and previously defined in, the three exact match coating categories (“Exact Match Finish, Automotive,” “Exact Match Finish, Engine,” and “Exact Match Finish, Industrial”).

Rationale for Proposed Amendments to Section 94521(a)(23)

This proposed reorganization would streamline several definitions, but would not change any criteria for products considered to be “Exact Match Finish” products. The proposed definition would avoid duplication of language in each of the individual exact match finish category definitions.

Summary of Proposed Amendments to Section 94521(a)(24), (a)(25), and (a)(26)

The definitions for “Exact Match Finish, Automotive,” “Exact Match Finish, Engine,” and “Exact Match Finish, Industrial” are proposed for modification to include language that indicates they must meet the definition of “Exact Match Finish.” Other language that is now found in the proposed definition of “Exact Match Finish” would be deleted. The “Exact Match Finish, Automotive,” would also be moved to new definition number 24. Other minor nonsubstantive wording updates are proposed.

Rationale for Proposed Amendments to Section 94521(a)(24), (a)(25), and (a)(26)

We have proposed to move the common criteria for “Exact Match Finish, Automotive,” “Exact Match Finish, Engine,” and “Exact Match Finish, Industrial” to the new “Exact Match Finish” definition. These three category definitions would be modified to reflect

this change but the proposed modifications would not modify any product criteria. Renumbering the definition for “Exact Match Finish, Automotive” would provide proper alphabetical order.

Summary of Proposed Amendments to Section 94521(a)(28)

A new definition is proposed for the term “Extender,” and it would be defined as an ingredient added to an “Aerosol Coating Product” to increase coatings solids.

Rationale for Proposed Amendments to Section 94521(a)(28)

Defining the term “Extender” would provide clarity because understanding the meaning of this term is necessary to calculate PWMIR. The proposed definition also clarifies that such ingredients are coating solids, and therefore, nonvolatile.

Summary of Proposed Amendments to Section 94521(a)(29)

We are proposing to change the “Flat Paint Product” category name to “Flat Coating.” The category would also be expanded to include products that are packaged in a single aerosol container that prominently display on the “Principal Display Panel” that the product is a dual function flat paint and primer.

Rationale for Proposed Amendments to Section 94521(a)(29)

The proposed name change for this product category would provide consistency with other product category names. Expanding the definition to include dual function products would also acknowledge technology advancements in this category. Explicitly stating that these dual function products are “Flat Coating” products would mean that the “Most Restrictive Limit” provision would not be imposed for products so labeled.

Summary of Proposed Amendments to Section 94521(a)(30)

We are proposing a minor modification to the “Flatting Agent” definition to indicate that it is an ingredient rather than a compound.

Rationale for Proposed Amendments to Section 94521(a)(30)

This modification would improve clarity by referring to a defined term in the regulation, “Ingredient.”

Summary of Proposed Amendments to Section 94521(a)(31)

We are proposing a new definition for “Flexible Coating,” and would define it as an aerosol coating product designed and labeled exclusively to provide a flexible coating to protect surfaces. The category would include rubberized, mastic and asphaltic

products, but would not include “Undercoating” products as defined in the Consumer Products Regulation.

Rationale for Proposed Amendments to Section 94521(a)(31)

Questions have been raised as to whether “Undercoating” products are regulated within the Aerosol Coatings Regulation or the Consumer Products Regulation.

“Undercoatings” are products applied to various parts of motor vehicles including the undercarriage, trunk interior and/or firewall to prevent rust or deaden sound. It is true that some “Undercoating” products would meet the definition of “Aerosol Coating Product” in that they contain pigments or resins. To date, however, aerosol “Undercoating” products have been subject to the Consumer Products Regulation. Another group of products make claims that they can be used as an “Undercoating” but also claim a wider variety of uses, and are sometimes labeled as “rubberized” coatings.

To provide clear direction as to how these products are regulated we would first clarify in the Consumer Products Regulation that “Undercoating” products are designed and labeled exclusively to be applied to various parts of motor vehicles including the undercarriage, trunk interior and/or firewall to prevent rust or deaden sound. Such products would continue to be regulated within the Consumer Products Regulation. The definition would further clarify that an undercoating product making any additional claims would be a “Flexible Coating” as defined in the Aerosol Coatings Regulation.

Second, we would define “Flexible Coating.” Products meeting this definition would be regulated within the Aerosol Coatings Regulation. Many of the products in the “Flexible Coating” category have been described as rubberized coatings in the past. “Flexible Coating” products would include rubberized products and products making additional claims beyond that of functioning as an “Undercoating.” Another proposal would establish a specific Reactivity Limit for the “Flexible Coating” category in section 94522.

Summary of Proposed Amendments to Section 94521(a)(34)

We are proposing a new definition for “Fragrance,” and define it as a substance or complex mixture of aroma chemicals, natural essential oils, and other functional components with a combined vapor pressure not in excess of 2 mm of Hg at 20°C, the sole purpose of which is to impart an odor or scent, or to counteract a malodor.

Rationale for Proposed Amendments to Section 94521(a)(34)

The proposed new definition for “Fragrance” would provide clarification to the regulation in that understanding the meaning would be necessary to calculate the PWMIR. The definition would be consistent with the definition in the Consumer Products Regulation.

Summary of Proposed Amendments to Section 94521(a)(35)

We are proposing a new definition for “General Coating,” and define it as “Clear Coating,” “Flat Coating,” “Fluorescent Coating,” “Metallic Coating,” “Nonflat Coating,” or “Primer.”

Rationale for Proposed Amendments to Section 94521(a)(35)

While the term “General Coating” is used to determine applicable requirements, it has not been defined. Defining the term would provide clarity as to how to interpret various regulatory provisions. Providing a definition would clarify that the product categories of “Clear Coating,” “Flat Coating,” “Fluorescent Coating,” “Metallic Coating,” “Nonflat Coating,” and “Primer” are subject to “General Coating” Reactivity Limits.

Summary of Proposed Amendments to Existing Section 94521(a)(37)

We are proposing to delete the definition for “Lacquer.”

Rationale for Proposed Amendments to Existing Section 94521(a)(37)

The definition for “Lacquer” is no longer needed. Therefore, deleting it would streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(38)

We are proposing to modify the wording of the “High Temperature Coating” definition. Such products are designed and labeled exclusively for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F). “Engine Paint” would be renamed “Engine Coating.”

Rationale for Proposed Amendments to Section 94521(a)(38)

The proposed language change would not impact the substance of the definition or alter the type of products that meet the definition. The proposed definition would provide consistency with the Consumer Products Regulation. Wording would also be updated to reflect the proposed category name change from “Engine Paint” to “Engine Coating.”

Summary of Proposed Amendments to Section 94521(a)(42)

We are proposing a new definition for “Label,” and define it as any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or appearing upon any consumer product or consumer product package for purposes of branding, identifying, or giving information with respect to the product or to the contents of the package.

Rationale for Proposed Amendments to Section 94521(a)(42)

Another proposed amendment (described later) would add a definition for “Principal Display Panel or Panels” that is consistent with the Consumer Products Regulation. The “Principal Display Panel or Panels” definition refers to the term “label,” therefore defining “Label” would provide clarity and is consistent with the Consumer Products Regulation.

Summary of Proposed Amendments to Section 94521(a)(45)

We are proposing to modify the definition of “Lubricant” to delete reference to lubricating substances and add language that indicates the function of the product.

Rationale for Proposed Amendments to Section 94521(a)(45)

The term “Lubricant” has been defined in the Aerosol Coating Products Regulation to describe products that are not subject to the regulation. “Lubricants” are subject to the Consumer Products Regulation. The proposed amendments would provide better consistency with the Consumer Products Regulation.

Summary of Proposed Amendments to Section 94521(a)(48)

We are proposing to modify the definition of “Maskant” by deleting reference to use during chemical milling, anodizing, aging, bonding, plating, etching, and other chemical operations. Instead “Maskant” would be defined as a product applied directly to a component to protect surface areas from damage during fabrication, inspection, or shipment and must not leave a residue when removed.

Rationale for Proposed Amendments to Section 94521(a)(48)

“Maskant” has been defined in the regulation to describe a type of product that is not subject to the regulation. The proposed modifications to the definition would better describe these products.

Summary of Proposed Amendments to Existing Section 94521(a)(50)

We are proposing to delete the definition for “Percent VOC By Weight.”

Rationale for Proposed Amendments to Existing Section 94521(a)(50)

The term “Percent VOC By Weight” was defined to specify calculation of a product’s VOC content and was necessary for determining compliance with mass-based VOC limits. Because the regulation no longer contains mass-based VOC limits the term is no longer necessary. Deleting the definition would streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(50)

We are proposing to modify the “Metallic Coating” category definition to delete the term “elemental” that describes the type of metallic pigment that such products must be formulated with. The definition would also be expanded to include products that are packaged in a single aerosol container that prominently display on the “Principal Display Panel” that the product is a dual function “Metallic Coating” and primer.

Rationale for Proposed Amendments to Section 94521(a)(50)

The current definition for “Metallic Coating” implies that a “Metallic Coating” must contain gold, silver, or bronze. Limiting a “Metallic Coating” to this requirement would render such products commercially unfeasible due to the cost of these precious metals. This change would acknowledge that other metallic pigments can be used to provide a finish that emulates a gold, silver, or bronze finish. Expanding the definition to include dual function products would also acknowledge technology advancements in this category. Explicitly stating that these dual function products are “Metallic Coating” products would mean that the “Most Restrictive Limit” provision would not be imposed for products so labeled.

Summary of Proposed Amendments to Section 94521(a)(51)

We are proposing to modify the name and definition of the “Mold Release” category, to “Mold Release Coating.” The definition would be modified to indicate that products must be designed and labeled exclusively for use as mold release coatings.

Rationale for Proposed Amendments to Section 94521(a)(51)

A definition of “Mold Release” has been in the regulation to describe products that are not subject to the regulation. Such products may or may not contain resins. Survey data now show that the exemption for such “Mold Release” products containing pigments or resins is no longer necessary. Another proposal would establish a Reactivity Limit for “Mold Release Coating” products in section 94522. Modifying the name of the product category to include the word “coating” would provide consistency with other product category names. Because some “Mold Release” products do not include a pigment or resin, the definition would be modified to describe only mold release products meeting the definition of “Aerosol Coating Product.” “Mold Release” products that do not contain pigments or resins would not meet the definition of “Aerosol Coating Product” and would continue to be exempt from compliance with the Aerosol Coatings Regulation.

Summary of Proposed Amendments to Section 94521(a)(53)

We are proposing to change the “Nonflat Paint Product” category name and definition, to “Nonflat Coating.” The definition would also be expanded to include products that are

packaged in a single aerosol container that prominently display on the “Principal Display Panel” that the product is a dual function “Nonflat Coating” and primer.

Rationale for Proposed Amendments to Section 94521(a)(53)

The proposed category name change would provide consistency with other product category names. Expanding the definition to include dual function products would also acknowledge technology advancements in this category. Explicitly stating that these dual function products are “Nonflat Coating” products would mean that the “Most Restrictive Limit” provision would not be imposed for products so labeled.

Summary of Proposed Amendments to Section 94521(a)(56)

We are proposing a new definition for “Pigment,” and would define it as a natural or synthetic insoluble material added to a coating to provide color, opacity, or corrosion inhibition to a coating film.

Rationale for Proposed Amendments to Section 94521(a)(56)

The definition of “Aerosol Coating Product” has always specified that such products contain pigments or resins. However, the term pigment was not defined. Defining this term would provide clarity as to applicability of the regulation.

Summary of Proposed Amendments to Section 94521(a)(57)

We are proposing a new definition for “Plasticizer,” and would define it as an ingredient added to an “Aerosol Coating Product” to aid in flexibility.

Rationale for Proposed Amendments to Section 94521(a)(57)

The term “Plasticizer” has been used in the regulation to describe an ingredient that is assigned a MIR value of zero. However, the term has not been defined. Therefore, defining the term would provide clarity.

Summary of Proposed Amendments to Section 94521(a)(60)

We are proposing to delete language indicating the category does not include “Clear Coating” products.

Rationale for Proposed Amendments to Section 94521(a)(60)

Deleting this language streamlines the regulation because it is redundant.

Summary of Proposed Amendments to Section 94521(a)(61)

We are proposing minor amendments to the definition of “Polyolefin Adhesion Promoter” to specify that such products are designed and labeled exclusively to be applied to a polyolefin or polyolefin copolymer surface of all vehicular bodies, not just automotive body parts, bumpers, or trim parts, to provide a bond between the surface and subsequent topcoats.

Rationale for Proposed Amendments to Section 94521(a)(61)

The proposed minor amendments to the definition of “Polyolefin Adhesion Promoter” would clarify our intent.

Summary of Proposed Amendments to Section 94521(a)(63)

We are proposing a new definition for “Principal Display Panel or Panels,” and would define it as that part, or those parts of a label that are so designed as to most likely be displayed, presented, shown or examined under normal and customary conditions of display or purchase. Whenever a principal display panel appears more than once, all requirements pertaining to the “Principal Display Panel” shall pertain to all such “Principal Display Panels.”

Rationale for Proposed Amendments to Section 94521(a)(63)

Because of other proposed amendments to describe dual-function “Flat”, “Metallic”, or “Nonflat” Aerosol Coating Products, the proposed definition would be necessary to describe where such dual function claims must be displayed on a product’s container. As proposed, combination paint and primer products must prominently display on the “Principal Display Panel” this dual use function.

Summary of Proposed Amendments to Section 94521(a)(65)

We are proposing to modify the definition of “Propellant” to eliminate reference to cosolvent.

Rationale for Proposed Amendments to Section 94521(a)(65)

This proposed minor modification would better describe the function of a propellant.

Summary of Proposed Amendments to Section 94521(a)(66)

We are proposing to modify the definition of “Reactivity Limit” to indicate that it refers to the ozone forming potential of ingredients expressed as the PWMIR, and that the product container and packaging are not product ingredients.

Rationale for Proposed Amendments to Section 94521(a)(66)

These modifications would clarify the regulation.

Summary of Proposed Amendments to Section 94521(a)(67)

We are proposing to modify the definition of “Reactive Organic Compound” to specify that the compound must contain at least one carbon atom.

Rationale for Proposed Amendments to Section 94521(a)(67)

This modification would clarify the regulation.

Summary of Proposed Amendments to Existing Section 94521(a)(68)

We are proposing to delete the definition of “Stain.”

Rationale for Proposed Amendments to Existing Section 94521(a)(68)

This definition is no longer needed. Deleting the unneeded definition would streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(68)

We are proposing a new definition for “Resin,” and would define it as a coating solid that comprises the film-forming ingredients in an aerosol coating product. The proposed definition gives examples of resin ingredients.

Rationale for Proposed Amendments to Section 94521(a)(68)

The definition of “Aerosol Coating Product” has always specified that such products contain pigments or resins. However, the term resin was not defined. Defining this term would provide clarity as to applicability of the regulation.

Summary of Proposed Amendments to Section 94521(a)(72)

We are proposing to modify the definition of “Rust Converter” to specify that products must contain a minimum acid content of 1.0 percent by weight, and a maximum solids content of 6.0 percent by weight.

Rationale for Proposed Amendments to Section 94521(a)(72)

“Rust Converter” has been a term used in the regulation to define a type of product that is not subject to the regulation. However, staff has become aware that the current definition does not accurately describe the level of coating solids or acid content that is necessary to produce a feasible “Rust Converter”. In light of this, manufacturers, to this

point, have chosen to label these products as “Flat Coating” products and comply with the requirements for that category. However, the proposal to lower the limit for the “Flat Coating” category makes this no longer a feasible limit for rust converter products. Therefore, staff is proposing changes that accurately describe the attributes of a “Rust Converter,” but is also proposing that the exemption be rescinded, and instead these products would be subject to a Reactivity Limit in section 94522.

Summary of Proposed Amendments to Section 94521(a)(73)

We are proposing a new definition for “Specialty Coating,” and would define it as any Aerosol Coating Product that is not a “General Coating” unless specifically exempted as specified in section 94523. The definition would go on to indicate that a coating that does not meet all the criteria for a specific “Specialty Coating” or a coating that is not defined in section 94521(a) is a “General Coating.”

Rationale for Proposed Amendments to Section 94521(a)(73)

Aerosol Coating Products have always been considered either a “General Coating” or a “Specialty Coating.” The terms are used to describe how various products must comply with the Table of Reactivity Limits. For example, section 94522(a)(4) [re-lettered as 94522(b)] specifies that if an “Aerosol Coating Product” is subject to both a “General Coating” limit and a “Specialty Coating” limit, as listed in the Table of Reactivity Limits in section 94522(a), and the product meets all the criteria of the applicable “Specialty Coating” category as defined in section 94521, then the “Specialty Coating” limit shall apply instead of the “General Coating” limit. The terms “Specialty Coating” and “General Coating,” however have not been defined. Explicitly defining “Specialty Coating” clarifies the regulation.

Summary of Proposed Amendments to Section 94521(a)(75)

We are proposing to change the “Slip-Resistant Coating” category name and definition, to “Slip-resistant/Non-slip Grip Coating,” thereby including more products that perform a similar function. Describing the product as only being able to contain “synthetic” grit would be deleted, and reference to non-slip and grip properties would be added.

Rationale for Proposed Amendments to Section 94521(a)(75)

The category name and definition would be modified to be more reflective of products currently available. The modification would clarify that products formulated with grit (synthetic or otherwise) or without grit that are designed to reduce or prevent slipping are included in this product category.

Summary of Proposed Amendments to Section 94521(a)(76)

We are proposing to modify the “Spatter Coating/Multicolor Coating” category name and definition, to “Spatter/Multicolor/Stucco Coating.” The definition would be expanded to

include stucco products that are labeled exclusively as a stucco coating to apply to a plaster finish typically made from a mixture of Portland cement, sand, and lime.

Rationale for Proposed Amendments to Section 94521(a)(76)

The proposed “Spatter/Multicolor/Stucco Coating” category would be modified to include additional products that perform a similar function, namely stucco coatings. Including these products acknowledges that stucco products are “Specialty Coatings” rather than “General Coatings.”

Summary of Proposed Amendments to Section 94521(a)(77)

We are proposing a new definition for “Two Component Coating,” and would define it as an aerosol coating product packaged in an aerosol container with a separate integrated chamber for the hardener or activator.

Rationale for Proposed Amendments to Section 94521(a)(77)

The definition for “Two Component Coating” is proposed to describe a relatively small category of coatings with unique packaging requirements. “Two Component Coating” products have an integrated chamber within the main container that serves to separate the hardener or activator from the remaining coating components. When the product is activated, the hardener/activator is combined with the other coating components. The product can only be used for a limited time (referred to as the “pot life”) before the coating becomes too viscous to use. In so defining the category, a Reactivity Limit is also being proposed in section 94522.

Summary of Proposed Amendments to Section 94521(a)(78)

We are proposing a new definition for “Uniform Finish Coating,” and would define it as an aerosol coating product designed and labeled exclusively for application to the area adjacent to a spot repair for the purpose of blending the spot repair’s color or clear coating to match the appearance of an adjacent area’s existing coating. The definition would go on to indicate that “Spot Repair” means repair of an area of less than one square foot. This category would include products labeled as edge blenders that are formulated to contain a pigment or resin. Another proposal would establish a Reactivity Limit for this category in section 94522.

Rationale for Proposed Amendments to Section 94521(a)(78)

Certain aerosol products perform a function to blend a spot repair to match the appearance of an adjacent area’s existing coating. Products performing this function are sometimes referred to as “edge blenders” and may or may not contain a resin. Staff is proposing to define those “edge blenders” containing a resin as “Uniform Finish Coating,” and is also proposing a Reactivity Limit for this category. However to ensure that all such edge blending products are regulated, those containing no resins would be

defined as “Paint Thinner” in the Consumer Products Regulation and would be subject to the proposed 10 percent by weight mass-based VOC limit proposed for aerosol “Paint Thinner” products.

Summary of Proposed Amendments to Section 94521(a)(80)

We are proposing to modify the definition of “Upper-Limit Mechanistic Reactivity” by referring to ROC rather than reactive organic compound.

Rationale for Proposed Amendments to Section 94521(a)(80)

This minor change is proposed because earlier in the section “Reactive organic compound” was defined along with the acronym “ROC.” Use of the acronym would streamline the definition and reduce redundancy.

Summary of Proposed Amendments to Section 94521(a)(82)

We are proposing to modify the name of the “Vinyl/Fabric/Leather/Polycarbonate Coating” category, renaming it “Vinyl/Fabric/Leather/Plastic Coating.” The definition would be expanded to include waterproofing products if the product is designed and labeled exclusively to repel water from fabric or leather substrates. The definition would also state that this category does not include “Fabric Protectants” as defined in section 94508(a) of the Consumer Products Regulation.

Rationale for Proposed Amendments to Section 94521(a)(82)

The proposed change would acknowledge that all types of coatings for plastic substrates should be included in this category rather than just products for use on polycarbonate plastic substrates. The definition modification would also include aerosol waterproofing products because these products are coatings used to repel water from fabric or leather substrates. Nonaerosol “Waterproofing” products are defined in the Consumer Products Regulation but are not subject to a VOC standard.

Summary of Proposed Amendments to Existing Section 94521(a)(73)

We are proposing to delete the definition of “Volatile Organic Compound (VOC).”

Rationale for Proposed Amendments to Existing Section 94521(a)(73)

The term ROC, rather than VOC, is now used to describe ingredients contained in Aerosol Coating Products that are regulated by Reactivity Limits. The mass-based VOC limits and provisions are proposed for deletion. Therefore, the term is no longer applicable and deletion would clarify and streamline the regulation.

Summary of Proposed Amendments to Section 94521(a)(86)

We are proposing to modify the definition for “Wood Stain” by specifying that this type of product is an “Aerosol Coating Product” which is designed and labeled exclusively as a “Wood Stain” and is used to change the color of a wood surface but not conceal the grain pattern or texture.

Rationale for Proposed Amendments to Section 94521(a)(86)

The proposed modified definition would provide consistency and clarity.

3. Summary of Section 94522, Reactivity Limits and Requirements

Summary of Proposed Amendments to Existing Section 94522(a)(1)

We are proposing to delete existing section 94522(a)(1) which describes the regulation of products during the transition from mass-based VOC limits to reactivity-based limits.

Rationale for Proposed Amendments to Existing Section 94522(a)(1)

Reactivity-based limits have been in place since 2002, therefore, this provision is no longer needed. Deletion would streamline the regulation.

Summary of Proposed Amendments to Existing Section 94522(a)(2)

We are proposing to delete existing section 94522(a)(2) which set forth mass-based VOC limits.

Rationale for Proposed Amendments to Existing Section 94522(a)(2)

Beginning in June 2002, for “General Coatings” and January 2003, for “Specialty Coatings,” mass-based percent by weight VOC limits were no longer applicable. Deleting these limits would streamline the regulation and provide clarity by making the applicable limits easier to find.

Summary of Proposed New Subsection 94522(a)(1)

A new subsection 94522(a)(1) is proposed to stipulate that all Aerosol Coating Products are required to comply with the applicable General Coating Reactivity Limit unless it meets all of the requirements for a “Specialty Coating.” If an aerosol coating meets all of the criteria for a specific “Specialty Coating,” the applicable “Specialty Coating” limit applies rather than the “General Coating” limit.

Rationale for Proposed New to Subsection 94522(a)(1)

It has always been the intent that any aerosol coating product sold, supplied, applied, offered for sale, or manufactured for sale in California must comply with a reactivity limit, unless specifically exempted. Any product that does not meet all of the criteria for a given "Specialty Coating" category, then, is required to comply with the applicable "General Coating" category limit. This provision would explicitly state this intent.

Summary of Proposed Amendments to Existing Section 94522(3)(1)(A) [proposed new subsection 94522 (a)(2)]

We are proposing to amend subsection 94522(3)(1)(A) to delete the reference to the expired provision 94522(a)(1), renumber it as subsection 94522(a)(2) and clarify that products are to comply with Reactivity Limits. Section 94522(a)(2) would also set forth new and or lower Reactivity Limits for Aerosol Coating Products.

The existing Table of Limits is divided into "General Coatings" and "Specialty Coatings," with the "General Coatings" consisting of the following categories: "Clear Coatings," "Flat Paint Products," "Fluorescent Coatings," "Metallic Coatings," "Nonflat Paint Products," and "Primers." The proposed Table of Reactivity Limits would retain the same six categories under "General Coatings," with lower Reactivity Limits effective January 1, 2017. The "General Coating" categories with their respective existing and proposed Reactivity Limits are shown in Table VIII-2 below.

Table VIII-2
Proposed Reactivity Limits for General Coating Categories
Product-Weighted MIR in Grams of Ozone per Gram of Product

General Coating Category	Existing Limits effective 06/01/2002* (g O₃/g product)	Proposed Limits effective 01/01/2017** (g O₃/g product)
Clear Coating	1.50	0.85
Flat Coating	1.20	0.80
Fluorescent Coating	1.75	1.30
Metallic Coating	1.90	1.25
Nonflat Coating	1.40	0.95
Primer	1.20	0.70

* Limits based on 2001 MIR Values

** Limits based on 2010 MIR Values

In the proposed amendments to the regulation, the existing "Specialty Coating" categories would be further subdivided into "Specialty Coatings (A)" and "Specialty Coatings (B)." For the ten product categories in the "Specialty Coatings (A)" table, we are proposing that Reactivity Limits become effective on January 1, 2017. This

additional time, beyond the effective date proposed for the “Specialty Coating (B)” categories, acknowledges that products in these categories will need extra time to reformulate to meet the proposed limits. Five of the proposed limits represent a decrease in existing limits, and five of the proposed limits are for previously exempt products or products that had been included in a General Coating category. Table VIII-3 displays the “Specialty Coatings (A)” categories along with the existing and proposed Reactivity Limit for each category.

Table VIII-3
Proposed Reactivity Limits for Specialty Coatings (A)
Product-Weighted MIR in Grams of Ozone per Gram of Product

Specialty Coatings (A) Category	Existing Limits effective 01/01/2003* (g O₃/g product)	Proposed Limits effective 01/01/2017** (g O₃/g product)
Auto Body Primer	1.55	0.95
Electrical/Electronic/Conformal Coating ⁺	N/A	2.00
Exact Match Finish: Automotive	1.50	0.95
Exact Match Finish: Engine;	1.70	0.95
Exact Match Finish: Industrial	2.05	1.20
Flexible Coating ⁺⁺	N/A	1.60
Ground Traffic/Marking Coating	1.20	0.85
Mold Release ⁺	NA	1.10
Two-Component Coating ⁺⁺	N/A	1.20
Uniform Finish Coating ⁺⁺	N/A	1.30

* Limits based on 2001 MIR Values

** Limits based on 2010 MIR Values

⁺ Indicates previously exempt coating category

⁺⁺ Indicates new coating category

The “Specialty Coatings (B)” table consists of twenty three categories for which staff is proposing to establish “cap” Reactivity Limits at a level that would not require reformulation, *i.e.*, all reported products would comply. Reactivity Limits for “Specialty Coatings (B)” product categories are proposed to become effective January 1, 2015. Table VIII-4 displays the “Specialty Coatings (B)” categories along with the existing and proposed Reactivity Limit for each category.

As shown in Table VIII-4 we are proposing to combine all forms of “Hobby/Model/Craft” coatings into a single category and change the existing limit for all products to 2.7 g O₃/g product. Likewise, we are proposing to combine all forms of “Shellac Sealer” coatings into a single category and change the existing limit for all products to 1.0 g O₃/g product.

Table VIII-4
Proposed Reactivity Limits for Specialty Coatings (B)
Product-Weighted MIR in Grams of Ozone per Gram of Product

Specialty Coatings (B) Category	Existing Limits effective 01/01/2003* (g O₃/g product)	Proposed Limits effective 01/01/2015** (g O₃/g product)
Art Fixative or Sealant	1.80	1.75
Automotive Bumper and Trim Product	1.75	1.70
Aviation or Marine Primer	2.00	1.25
Aviation Propeller Coating	2.50	1.40
Corrosion Resistant Brass, Bronze, or Copper Coating	1.80	1.80
Floral Coating	1.70	0.85
Glass Coating	1.40	1.35
High Temperature Coating	1.85	1.85
Hobby/Model/Craft Coating [#]	2.70 [#]	1.60
Marine Spar Varnish	0.90	0.90
Photograph Coating	1.00	0.75
Pleasure Craft Finish Primer/Surfacer/Undercoater	1.05	0.90
Pleasure Craft Topcoat	0.60	0.60
Polyolefin Adhesion Promoter	2.50	2.50
Rust Converter ⁺	NA	1.10
Shellac Sealer [#]	1.00 [#]	1.00
Slip-resistant/Non-slip Grip Coating ⁺⁺	2.45	2.10
Spatter/Multicolor/Stucco Coating ⁺⁺	1.05	1.05
Vinyl/Fabric/Leather/Plastic Coating	1.55	1.45
Webbing/Veiling Coating	0.85	0.75
Weld-Through Primer	1.00	1.00
Wood Stain Coating	1.40	0.90
Wood Touch-Up/Repair/Restoration Coating	1.50	1.45

* Limits based on 2001 MIR Values

⁺ Indicates previously exempt coating category

** Limits based on 2010 MIR Values

⁺⁺ Indicates additional product types added to the category

[#] Indicates proposed combined category and limit

Rationale for Proposed Amendments to Section 94522(3)(1)(A)

The minor wording amendments proposed to section 94522(a)(2), formerly 94522(3)(1)(A), are designed to clarify the provision. The revised Table of Reactivity Limits also would specify the new or lower Reactivity Limit for each category, as well as the date the limit would become effective. Reorganization of the table is proposed to accommodate differences in effective dates for the limits. The limits are proposed to achieve the maximum feasible reduction in OFP from aerosol coatings. If adopted the limits would result in an equivalent VOC reduction of about 3.7 tons per day.

The amendments to “cap” the Reactivity Limits for 23 categories of “Specialty Coating” are proposed because staff has determined that further lowering the Reactivity Limits would provide negligible air quality benefits, and would not be cost effective or commercially and technologically feasible. However, most of the proposed “cap” limits are lower than the existing limits and are set as low as possible to prevent future increases. Because the limits do not require reformulation an earlier effective date of January 1, 2015 is proposed.

The proposed modifications to consolidate all forms of “Hobby/Model/Craft” coatings (previously lacquer, enamel, clear, or metallic subcategories with individual limits ranging from 1.45 to 2.7 g O₃/g product) into a single category and change the existing limit for all products to 2.7 g O₃/g product is an effort to streamline the regulation. While it would appear that increasing the limit may result in an OFP increase the likelihood is small because all products already comply with the proposed future limit of 1.6 g O₃/g product.

The proposed modifications to consolidate both forms of “Shellac Sealer” coatings (previously clear or pigmented subcategories with individual limits of 1.00 and 0.95 g O₃/g product, respectively) into a single category and change the existing limit for all products to 1.0 g O₃/g product is also an effort to streamline the regulation. While it would appear that increasing the limit may result in an OFP increase the likelihood is small because all products already comply with the proposed future limit of 1.0 g O₃/g product.

With regard to the proposals for “Hobby/Model/Craft” coatings and “Shellac Sealer” coatings, if all products were to reformulate to the higher limits for the interim time between when the limits would become effective and the effective date of the future proposed limits (~ 3-4 months), we estimate the potential equivalent emission increase would be about 0.1 tons per day.

Summary of Proposed Amendments to Section 94522(a)(4) [proposed new subsection 94522(b)]

Proposed new subsection 94522(b), would be modified to capitalize defined terms, reference the Table of Reactivity Limits, and eliminate the reference to 94522(a)(3).

Rationale for Proposed Amendments to Section 94522(a)(4) [proposed new subsection 94522(b)]

Section 94522(a)(4) [re-lettered as 94522(b)] specifies that if an “Aerosol Coating Product” is subject to both a “General Coating” limit and a “Specialty Coating” limit, as listed in the Table of Reactivity Limits in section 94522(a), and the product meets all the criteria of the applicable “Specialty Coating” category as defined in section 94521, then the “Specialty Coating” limit shall apply instead of the “General Coating” limit.

The proposed modifications would provide clarity by deleting the reference to the expired provision (a)(3) that refers to VOC limits. Other proposals would provide consistency.

Summary of Proposed Amendments to Section 94522(a)(5)

We are proposing to delete subsection 94522(a)(5), which specified requirements for “High Temperature Coating” products.

Rationale for Proposed Amendments to Section 94522(a)(5)

Subsection 94522(a)(5) is no longer needed. Therefore the proposal to delete the provision would streamline the regulation.

Summary of Proposed Amendments to Section 94522(a)(6) [proposed new subsection 94522(c)]

Minor wording changes are proposed to this provision that specifies that Aerosol Coating Products cannot use the Alternative Control Plan.

Rationale for Proposed Amendments to Section 94522(a)(6) [proposed new subsection 94522(c)]

The proposed minor wording changes would provide clarity.

Summary of Proposed Amendments to Section 94522(b) [proposed new subsection 94522(d)]

Proposed amendments to section 94522(d), would delete the existing language for the sell-through provision for Aerosol Coating Products. New expanded language would be set forth beginning with subpart (1) that would contain the same provisions.

Provisions specific to sell-through for products sold in multi-unit packages would be added as part (1)(C). As proposed, to qualify for the sell-through, these multi-unit packages would be required to display a date of manufacture that is readily observable without irreversibly disassembling the container or package. However, to provide flexibility, the date the products were placed into the multi-unit package (the date of assembly) could be used as the date of manufacture.

Additional language in subpart (2) is proposed related to products that are sold during the last six months of any sell-through period. In this instance we are proposing that the purchaser (limited to distributors and retailers) must be notified that the sell-through is ending.

Rationale for Proposed Amendments to Section 94522(b) [proposed new subsection 94522(d)]

State law requires that products manufactured prior to the effective dates of limits be allowed to be sold, supplied, or offered for sale for up to three years. The modifications proposed by staff would not alter this requirement but would further align the provisions with those in the Consumer Products Regulation. Consistent with previous provisions in the Aerosol Coatings Regulation, products would have to display the date of manufacture on the product container to qualify for the sell-through period, and as specified in section 94524(b)(2) provide a “key” for understanding the date of manufacture if a code is used. This dating requirement has been necessary to determine those noncomplying products that can legally be sold after the effective date of a limit for up to three years if the date of manufacture indicates the products were manufactured prior to the effective date.

New requirements for date-coding of products contained in multi-unit packages and a requirement to notify distributors and retailers regarding products sold within the last six months of the sell-through period would mirror the Consumer Products Regulation. The provisions pertaining to sales of multi-unit packages are designed to allow enforcement staff to determine the date of manufacture without having to disassemble the product. If the dates of manufacture for the individual units are not readily observable, manufacturers would be allowed to use the date of assembly, *i.e.*, the date the products were packaged together, as the date of manufacture for all products in the multi-unit package.

Related to providing notification, as proposed, any distributor or retailer that sells or supplies an aerosol coating product must provide written notification to the purchaser that the sell-through for the product will expire in six months or less. When this provision was added to the Consumer Products Regulation staff had become aware of instances in which products nearing the end of sell-through were being sold to retailers and providing no notification that the products would soon be noncompliant. Therefore, this provision is designed to assist retailers to understand when products must be removed from shelves.

Summary of Proposed Amendments to Section 94522(c) and (d) [proposed new subsections 94522(e) and (f)]

As proposed, language in section 94522(e) would be modified to delete requirements for products subject to VOC limits. The existing prohibitions on use of methylene chloride, perchloroethylene, and trichloroethylene would be consolidated, and the

reference to the term “impurity” would be deleted. Subsection (f) would be reorganized to include only the prohibition on use of ozone depleting substances.

Rationale for Proposed Amendments to Section 94522(c) and (d) [proposed new subsections 94522(e) and (f)]

The proposed amendments to section 94522(e) and (f) are designed to streamline the regulation by deleting expired provisions, consolidating toxic compound prohibitions, and clarifying provisions pertaining to prohibition on use of ozone depleting substances. The amendments would not change any intent of the previous prohibitions. The prohibition on use of methylene chloride, perchloroethylene, trichloroethylene, and ozone depleting substances in all Aerosol Coating Products would continue, unless present in an amount less than 0.01 percent by weight.

Summary of Proposed Amendments to Section 94522(e) [proposed new subsection 94522(g)]

Within the provision for “Multi-component Kits” we are proposing to remove all references to VOC standards and total VOC calculation.

Rationale for Proposed Amendments to Section 94522(e) [proposed new subsection 94522(g)]

Existing subsection 94522(e) contains provisions for determining compliance for products sold in multi-unit kits. Subpart (1) pertains to kits subject to VOC limits, while subpart (2) pertains to kits subject to reactivity-based limits. Subpart (1) is proposed for deletion because it is no longer relevant. Deleting this subpart would streamline the regulation.

Summary of Proposed Amendments to Section 94522(f) [proposed new subsection 94522(h)]

Minor proposed amendments to subsection (h), related to products in which paint is added to aerosol containers of propellant, would be deleted.

Rationale for Proposed Amendments to Section 94522(f) [proposed new subsection 94522(h)]

VOC limits are no longer applicable. Therefore, deletion of this expired provision would streamline the regulation.

Summary of Proposed Amendments to Existing Section 94522(g)

We are proposing to delete the provisions for Lacquer products subject to VOC limits.

Rationale for Proposed Amendments to Existing Section 94522(g)

The provisions related to an interim VOC limit for “Lacquer” Aerosol Coating Products has expired. Deleting the provision would streamline the regulation.

Summary of Proposed Amendments to Section 94522(h) [proposed new subsection 94522(i)]

Section 94522(i) contains provisions for assigning MIR values for calculating a product’s reactivity content. A number of changes and additions are being proposed to the assignment of MIR values.

We are proposing to move existing paragraph (E), which indicates that all product ingredients in an amount equal to or exceeding 0.1 percent by weight will be used to calculate the PWMIR, to new subpart (1).

Subpart (B) would be modified to indicate that “Coating Solid,” “Extender,” and “Plasticizer” ingredients are assigned a MIR value of 0.0 (zero). This would not alter the compounds assigned MIR values of 0.0 (zero), but reflects revised definitions. Language is also proposed that specifies that “Antimicrobial Compound” ingredients in an amount of up to 0.25 percent by weight and “Fragrance” in an amount of up to 0.25 percent by weight are assigned an MIR value of 0.0 (zero). However subpart (F) would specify that for any amount of “Fragrance” exceeding 0.25 percent by weight, the MIR value for terpinolene would be used.

As proposed in subparts (D) and (E), language would be added to specify that if a ROC is not listed in section 94700, title 17, CCR, the isomer(s) of that ROC with the highest listed MIR value shall be used. If no isomer(s) is listed, the MIR value for 1,2,3-trimethyl benzene shall be used to determine the weighted MIR of the ROC to calculate the PWMIR. Similarly, if an aliphatic hydrocarbon solvent is not listed in section 94701, title 17, CCR, the MIR value for 1,2,3-trimethyl benzene shall be used to calculate the PWMIR.

Renumbered subpart (3)(A) is proposed to establish the timeline for transitioning between the 2001 and 2010 MIR values contained in sections 94700 and 94701. Staff is proposing that the 2010 MIR values be used as soon as the amendments become effective. Staff is also proposing that the 2010 MIR values would remain in effect until at least January 1, 2020.

Minor amendment to subpart (3)(B) would specify that if a new ROC is added to section 94700 or 94701 that new MIR value, rather than a default MIR value, shall be used.

Rationale for Proposed Amendments to Section 94522(i)

Paragraph (E), which specifies that ingredients in an amount of 0.1 percent must be used to calculate the PWMIR, would be reorganized as subpart (1) to provide clarity.

Previous subpart (1), which would be renumbered to subpart (2) sets forth how to assign MIR values. Paragraph (B) would be modified to provide additional clarity as to the type of ingredients that are considered nonreactive and are assigned MIR values of zero. Such ingredients are “Coating Solids,” “Extenders,” and Plasticizers.” To provide compliance flexibility fragrance compounds and antimicrobial compounds in amounts up to 0.25 percent by weight would also be considered to have MIR values of zero.

Previously, compounds not listed in the Tables of MIR Values (section 94700, Title 17, CCR) could not be used. To provide compliance flexibility staff is proposing various “default” MIR values that could be used when no MIR value exists. The proposals are conservative, meaning it is likely that the compound’s “true” reactivity would be lower than the default value specified.

New subpart (D) would allow an isomer of a compound listed in the Tables of MIR Values to be used if an MIR value for the compound is not listed. In addition, if more than one isomer is listed, the higher MIR Value would be used to represent the ingredient’s reactivity. This proposal would also provide flexibility to use all compounds.

Revised subpart (E) would specify that if a MIR value for a compound is not listed, the MIR value for 1,2,3-trimethyl benzene shall be used. This compound is the highest reactive compound reported in the 2010 Survey. Therefore, specifying the use of the MIR value for this compound when no MIR value exists is conservative, meaning it is likely that the compound’s “true” reactivity would be lower than the default value specified.

In the Tables of MIR Values only a limited number of fragrance ingredients are listed. To provide flexibility such that any fragrance ingredients could be used staff would specify in subpart (F) that the MIR value for terpinolene be used. This compound is among the most reactive fragrance ingredients listed, but provides flexibility by allowing all fragrance compounds to be used.

In revised subpart (3) staff is proposing a date to transfer to use of the 2010 MIR values. These MIR values represent the state of the science so it is appropriate that their use begin expeditiously. Therefore staff is proposing that the 2010 MIR values would be used to calculate PWMIRs as soon as the amendments, if adopted, would be filed with the Secretary of State. Subpart (3)(B) would clarify which MIR value to use if a new compound is added to the Tables of MIR Values. In this case that new MIR value is proposed for use, rather than the default value, because it would more accurately represent the compound’s reactivity.

Other minor nonsubstantive modifications would clarify and update various provisions.

4. Summary of Section 94523, Exemptions

Summary of Proposed Amendments to Section 94523(a)(1)

We are proposing to delete section 94523(a)(1) which sets forth exemptions for products manufactured prior to December 31, 2008.

Rationale for Proposed Amendments to Section 94523(a)(1)

Section 94523(a)(1) provides descriptions of the types of products that are exempt from compliance with the regulation. However, this section is no longer applicable as products manufactured prior to December 31, 2008, are no longer being marketed. Deleting this expired provision would streamline the regulation. The applicable section to describe exempt products would be contained in revised section (a).

Summary of Proposed Amendments to Section 94523(a)(2) [proposed section 94523(a)]

We are proposing to amend section 94523(a)(2) [proposed section 94523(a)] to describe the types of products that are not subject to the regulation. As proposed, staff is deleting the exemptions for “Mold Releases,” “Electrical Coating,” and “Rust Converter” products. The section would be further modified to delete unneeded terms, and update the category names for the types of products that remain exempt.

Rationale for Proposed Amendments to Section 94523(a)(2) [proposed section 94523(a)]

Section 94523(a)(2) [proposed section 94523(a)] would be updated to better characterize and clarify the types of products considered to be exempt from compliance. Because some products that had previously been exempt from compliance are now proposed for regulation, references to “Mold Release Coating” (formerly “Mold Release”), “Electrical/Electronic/Conformal Coating” (formerly “Electrical Coating”) and “Rust Converter” would be deleted.

Summary of Proposed Amendments to Section 94523(c) and (d)

We are proposing to delete the reference to section 94522(a)(3) in subsections (c) and (d).

Rationale for Proposed Amendments to Section 94523(c) and (d)

Section 94523(a)(3) is a reference to the VOC limits which are no longer applicable. Deletion of the reference to the VOC limits would clarify and streamline the regulation.

5. Summary of Section 94524, Administrative Requirements

Summary of Proposed Amendments to Section 94524(a)

Within the “Most Restrictive Limit” provision we are proposing to delete the reference to section 94522(a)(3) which is a reference to the table of VOC limits.

Rationale for Proposed Amendments to Section 94524(a)

Deletion of the reference to mass-based VOC limits would clarify and streamline the regulation because these requirements are no longer applicable.

Summary of Proposed Amendments to Section 94524(b)

The requirements specifying that products subject to VOC limits must include the applicable limit, coating category, and date of manufacture are proposed for deletion in section 94524(b)(1)(A). Other proposals to subpart (1) would update language pertaining to labeling requirements for products subject to Reactivity Limits and would delete the existing requirement that such products must include a date of manufacture on the product.

New proposed section (2)(A) would require manufacturers to display a date of manufacture on product containers. This section would also specify that codes that represent a sequential batch number or that otherwise cannot be attributed to a specific day, month and year, do not satisfy the requirement.

Proposed subpart (B) would specify that if a specific code to indicate the date of manufacture is used that a manufacturer would not have to file an explanation of the date code with the Executive Officer. As proposed in subpart (C) the date of manufacture would have to be displayed 12 months prior to the effective date of the limit.

Proposed subpart (D) would set forth provisions for products sold in multi-unit packages. As proposed, if individual product units of a multi-unit package assembled after January 1, 2015, do not display a date of manufacture that is readily observable without disassembling the packaging, the individual product units shall be deemed to be subject to the Reactivity Limit in effect when the multi-unit package is sold, supplied, or offered for sale, regardless of the date on which the product units were manufactured. As further proposed, the date the units are assembled into a multi-unit package (date of assembly) rather than the dates the individual products were manufactured may be used to indicate the date of manufacture, as long as the date of assembly is readily observable without irreversibly disassembling any portion of the container or packaging. In such cases the “date of assembly” shall be the “date of manufacture” for all of the product units contained within the multi-unit package.

Proposed new subpart (E) would require manufacturers to submit to the Executive Officer an explanation of any date code used at least 12 months prior to using the code. Thereafter the code must be filed annually and be received before January 31st of each year. As proposed the first explanation would be due on January 31, 2015. If any changes to the code indicating date of manufacture are made that code would also be required to be filed prior to selling any products displaying the modified code.

New proposed subpart 4 would expand the requirement that no person shall alter or otherwise make a date code illegible.

Existing subpart (4) would be deleted.

Subpart 5 would clarify that date codes are public information and cannot be held as confidential.

Rationale for Proposed Amendments to Section 94524(b)

Deletion of the labeling requirements pertaining to VOC limits [existing subpart (1)(A)] would clarify and streamline the regulation because these requirements are no longer applicable.

Proposed labeling modifications are designed to align with provisions in the Consumer Products Regulation. However, the basic requirements that products must include the applicable Reactivity Limit, coating category, a date of manufacture that is readily observable, and the filing of an explanation of how to interpret a code representing a date of manufacture, would not be affected by the proposed amendments. These requirements would be reorganized to provide consistency.

The proposed provisions would provide more clarity as to how products must be labeled to indicate the date of manufacture [proposed new subpart (2)]. Addition of a provision [new proposed subpart (2)(E)] to not require annual filing of an explanation of date coding information if specific dating format [proposed in new subpart (2)(B)] is used could lessen the administrative burden on affected stakeholders.

New proposed subpart (2)(D) would specify labeling requirements for products sold in multi-unit packages. The amendments are designed to allow enforcement staff to observe the labeling information without disassembling the multi-unit kit. However, to provide flexibility, use of the date that the products were assembled together into the multi-unit package would be allowed.

New proposed subpart (E) requires filing with the Executive Officer an explanation of any code used to represent the date of manufacture. These requirements are not new, but are reorganized to provide additional clarity on when such filings are required.

Revised subpart (3) [new subpart 4.] would expand the provision that codes should not be tampered with. These proposed changes are consistent with those in the Consumer Products Regulation.

New subpart 5 would clarify that date codes are public information.

Summary of Proposed Amendments to Section 94524(c)

Section 94524(c) sets forth various reporting requirements. Subsection (c) would be modified to refer to the earliest Reactivity Limit and expand the type of contact information to be provided. The reporting requirements for product subject to VOC limits would be deleted [subpart (2)1.] and the information required to be submitted for products subject to Reactivity Limits would be reorganized. Language describing an “impurity” would be deleted. Existing provisions that allow products to be reported as a group and requirements for reporting exempt compounds are proposed for deletion.

Rationale for Proposed Amendments to Section 94524(c)

The proposal to reference the earliest Reactivity Limit in subsection (c)(1) would be necessary to specify the proper effective date and limits. The proposal to require an email address would expedite communication with stakeholders. The proposed amendments to reporting requirements would streamline the regulation by deleting expired provisions related to VOC limits, impurities, and exempt compounds. The proposal to delete the ability to report product information for a group is designed to assist staff better understand the variations in formulations. In addition, products that may be similar in VOC content may have differing PWMIRs. Therefore, grouping products does not provide the level of detail needed. The proposals to reorganize the reporting requirements pertaining to information to be reported in support of the reactivity-based provisions would provide clarity.

Summary of Proposed Amendments to Section 94524(d)

We are proposing to add reference to section 94526 to indicate that the information in this section would also be handled in accordance with confidentiality procedures.

Rationale for Proposed Amendments to Section 94524(b)

Section 94526 requires certain confidential formulation data to be reported. This information is considered confidential, therefore this change clarifies our intent to keep this information confidential.

Summary of Proposed Amendments to Section 94524(e)

We are proposing to delete the section, *Special Reporting Requirements for Perchloroethylene Containing Aerosol Coatings*, from the regulation.

Rationale for Proposed Amendments to Section 94524(e)

The requirement to report data on perchloroethylene content expired after data for 2002 was provided. Beginning in 2002 a prohibition on use of perchloroethylene in Aerosol Coating Products became effective. Therefore, there is no longer a need to track the use of perchloroethylene. The elimination would streamline and clarify the regulation.

6. Summary of Section 94525, Federal Enforceability; Section 94528, Variances

Summary of Proposed Amendments to Sections 94525 and 94528

We are proposing minor nonsubstantive wording corrections.

Rationale for Proposed Amendments to Sections 94525 and 94528

The minor wording changes would provide consistency within the regulation.

7. Summary of Section 94526, Test Methods and Compliance Verification

Section 94526, previously titled Test Methods, would have a number of proposed changes designed to improve enforcement and would be expanded to include a compliance verification process.

Summary of Proposed Amendments to Section 94526(a), (d), (e), (f) and (g)

We are proposing to delete testing procedures for products subject to VOC limits in existing subsection (a). A proposed new subpart (a) would specify the test methods to be used to determine compliance for products subject to Reactivity Limits. The title of the test method would be updated and the test methods for Metal Content (subsection d), Specular Gloss (subsection e), Acid Content (subsection f), and “Lacquers” (subsection g) would be deleted. We are also proposing to incorporate the test procedure for “Specular Gloss” and “Acid Content” into Method 310. These test procedures would also reflect the latest versions of the ASTM methods. Thus, sections 94526 (d), (e), (f) and (g) would be deleted.

Rationale for Proposed Amendments to Section 94526(a), (e), (f) and (g)

Deletion of the reference to testing procedures for mass-based VOC limits would clarify and streamline the regulation because these requirements are no longer applicable. Reorganization of the procedures to test for compliance with the Reactivity Limits would improve clarity. Modification of the title for the test method to “Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products” would provide the correct title. Proposed deletion of the test methods would streamline the

regulation because these test methods would be added to Method 310. Deletion of the reference to a test method for lacquers would streamline the regulation because specific provisions for such products are proposed for deletion. Incorporating the test procedures for “Specular Gloss” and “Acid Content” into Method 310 would streamline the regulation and update the methods to the latest version of the ASTM methods.

Summary of Proposed Amendments to Section 94526(b)

Existing subsection (b)(1) would be reorganized into subsection (a). Existing subsection (b)(2) would be deleted and reorganized and modified into new subsection (b), *Compliance Verification*. In proposed new subpart (b)(1) we are proposing to extend from 10 working days to 25 working days for manufacturers to supply formulation data upon written notification. Other proposals would provide further detail on what “formulation data” means and would specify additional ingredients and information that must be reported.

In addition, proposed new paragraph (A) would specify that all of the following must be reported:

- each ROC, water, “Antimicrobial Compound,” “Coating Solid,” “Extender,” “Plasticizer,” and any compound assigned MIR value of zero;
- each ROC in an amount greater than or equal to 0.1 percent by weight;
- each hydrocarbon solvent if it is present in an amount greater than or equal to 0.1 percent by weight and solvent Bin number;
- any solvent constituent of each additive in an amount greater than or equal to 0.1 percent by weight; and
- all hydrocarbon propellant ingredients (specified and separated).

The proposals would also specify that a material safety data sheet does not constitute formulation data, and that failure to provide the information, or providing incorrect information, is a violation.

Proposed new subpart (b)(2) would require any Responsible Party to supply contact information for the person whom is to receive written notification to provide formulation data and other information. As would be specified in subpart (b)(3), the contact information would be due on January 1, 2015, and any time the contact information changes.

Renumbered section (b)(4) would be amended to specify that Method 310 would be used to determine the PWMIR of Aerosol Coating Products.

Proposed new subpart (4)(A) would specify the MIR values [in proposed Table 94526(b)(4)(A)] to be used to calculate the reactivity of hydrocarbon solvent(s). The proposed MIR values are displayed in Table VIII-5 below. For clarity it is not shown in strikeout/underline format.

Table VIII-5
Proposed Reactivity Values for Hydrocarbon Solvent Constituents
(in Grams of Ozone per Gram VOC)

Hydrocarbon Solvent Fraction	MIR Value (October 2, 2010)
Alkanes	
Alkane(s) containing 5 carbons	1.45
Alkane(s) containing 6 carbons	1.27
Alkane(s) containing 7 carbons	1.41
Alkane(s) containing 8 carbons	1.27
Alkane(s) containing 9 carbons	1.09
Alkane(s) containing 10 carbons	0.90
Alkane(s) containing 11+ carbons	0.66
Aromatic Compounds	
Xylene isomers, Ethyl benzene	7.64
Aromatics containing 9 carbons	7.99
Aromatics containing C10+carbons	6.95

Proposed new subpart (4)(B) would specify that the analytical results would take precedence if there is a discrepancy between supplied formulation data and the results of Method 310.

Rationale for Proposed Amendments to Section 94526(b)

Proposed new subpart (b) is proposed to improve and clarify the enforcement process. Manufacturers have always been required to submit formulation data upon written notification that their products have been selected for compliance testing. However, stakeholders and enforcement division staff have requested that modifications be made to provide clarity. First of all, new proposed subpart (1) would allow 25 working days, rather than the previous 10 days, to provide requested data. The proposed subpart (1)(A) would also further clarify what constitutes formulation data and other information to be supplied. It would also clarify that a material safety data sheet is not formulation data. To aid in enforcing the requirements, the amendments would explicitly specify that failing to provide the requested data, or supplying incorrect data, are violations.

Proposed subpart (2) would specify that Responsible Parties must supply contact information related to whom letters of notification of compliance testing should be sent. This is proposed because we have learned that there have been instances where the letters were sent to the incorrect contact person, thereby resulting in the formulation

data not being received in a timely manner. However, to lessen the administrative burden, as proposed in subpart (3), contact information would only need to be supplied initially by January 15, 2015, and then, only when the information changes.

Hydrocarbon solvents can be defined as complex mixtures of normal alkanes, branched alkanes, cyclic alkanes, and aromatic compounds. Such products contain as many as several hundred different ingredients, but each is typically present in a small amount. These solvents have presented an analytical challenge in terms of determining their reactivity contribution to an aerosol coating product. Method 310 is being modified to put in place new analytical procedures to analyze for such ingredients. To align with the proposed analytical procedures we are proposing a new process for evaluating the reactivity of such solvents. As proposed in new subpart (4)(A), MIR values would be assigned based on carbon number as set forth in new Table 94526(b)(4)(A) [as shown in Table VIII-5 above].

New proposed subpart (B) would also clarify that Method 310 shall take precedence over supplied formulation data when there is a discrepancy. This provision will aid the determination of a violation.

D. Hairspray Credit Program

Summary of Proposed Amendments to Sections 94560-94575

We are proposing the repeal of the Hairspray Credit Program (provisions of sections 94560-94575 in Subchapter 8.5, Article 5, Title 17, CCR), in its entirety.

Rationale for Proposed Amendments to Sections 94560-94575

The Hairspray Credit Program (provisions of sections 94560-94575 in Subchapter 8.5, Article 5, Title 17, CCR) expired when the ability to utilize credits ended on January 1, 2010. Repealing the Hairspray Credit Program would formally acknowledge expiration of the program, and streamline the suite of Consumer Products Regulations.

E. Tables of MIR Values

Summary of Proposed Amendments to the Tables of Maximum Incremental Reactivity (MIR) Values, MIR Values for Compounds, Section 94700

We are proposing to reorganize the “Oxygenated Organics” section of the Tables of Maximum Incremental Reactivity (MIR) Values, MIR Values for Compounds (section 94700 in Subchapter 8.6, Article 1, Title 17, CCR).

Rationale for Proposed Amendments to Tables of Maximum Incremental Reactivity (MIR) Values, MIR Values for Compounds, Section 94700

The compounds in the table are organized by class of organic compounds. This includes “Alkanes,” “Alkenes,” “Aromatic hydrocarbons,” “Oxygenated Organics,” “Other Organic Compounds,” and “Complex Mixtures.” Currently in the “Oxygenated Organics” section, all organic compounds containing the chemical element oxygen are listed by carbon number. We are proposing to reorganize the section of “Oxygenated Organics” by subcategories of oxygenated compounds such as alcohols, aldehydes, ketones, esters of organic acids, and other subcategories. The proposed change would make the compounds easier to find.

F. Method 310

Method 310 sets forth procedures to be followed to determine compliance with the VOC limits for various consumer products and the reactivity limits for aerosol coatings. This section contains a plain English description of the proposed amendments to Method 310 and the rationale for them.

Summary of Proposed Amendments to the Title of Method 310

We are proposing a nonsubstantive modification to update the title of Method 310 by adding the acronym “ROC.” The title would be: “Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds (ROC) in Aerosol Coating Products.” We would also use the term ROC throughout the method.

Rationale for Proposed Amendments to the Title of Method 310

This minor nonsubstantive proposed change would increase consistency.

Summary of Proposed Amendments to Method 310, Section 1

We are proposing to add section 1.2 to clarify that Method 310 is used for the determination of PWMIR of aerosol coatings. Other sections would be renumbered.

Rationale for Proposed Amendments to Method 310, Section 1

The proposed addition of section 1.2 would clarify that Method 310 is used to determine the ROC content of aerosol coatings in order to determine the PWMIR.

Summary of Proposed Amendments to Method 310, Section 2

We are proposing to replace the term “American Society for Testing and Materials International” with “ASTM International.” The acronym for this testing society, “ASTM” would be used throughout the method. In subsection 2.18 we are also proposing to

delete the reference to Appendix B. Test methods for Metal Content, Specular Gloss, and Acid Content would be added as new sections 2.32, 2.33, and 2.34, respectively.

Rationale for Proposed Amendments to Method 310, Section 2

The proposed modification to section 2 to refer to ASTM International would update the name of the testing society. Deleting the reference to Appendix B in section 2.18 would streamline the regulation because another proposal would repeal Appendix B.

Adding test methods for determining Metal Content, Specular Gloss, and Acid Content in new sections 2.32, 2.33, and 2.34, respectively, would be necessary to determine compliance with various requirements for aerosol coatings.

Summary of Proposed Amendments to Method 310, Section 3.3.5 and 3.3.8

We are proposing to explicitly indicate that, effective January 1, 2015, the analysis for exempt and prohibited compounds for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD shall include an analysis for methyl esters with 17 or more carbon atoms. We are proposing to amend section 3.3.8 to update a reference to an ASTM test method, ASTM D 3257 by adding ‘06.’

Rationale for Proposed Amendments to Section 3.3.5 and 3.3.8

This proposed modification to analyze for methyl esters with 17 or more carbon atoms is necessary to be more consistent with compounds SCAQMD considers to be nonvolatile. Other changes to Method 310 would specifically exclude any amount of methyl esters with 17 or more carbon atoms prior to determining final VOC content (proposed section 4.2.4). Therefore, an analysis for these compounds is necessary. The addition of ‘06’ in section 3.3.8 would clarify that the analysis in Method 310 uses the version of ASTM D 3257 from 2006.

Summary of Proposed Amendments to Method 310, Section 3.6

We are proposing to add language specifying that effective January 1, 2015, section 3.6 does not apply to nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD. In subsection 3.6.1, we are proposing to add the dates to the ASTM test methods and delete the reference to Appendix B. Section 3.6.2 would be modified to change the percentage from 5 to 1 percent to determine the amount of a mixture which has in initial boiling point greater than 216° C. We are also proposing to delete section 3.6.3.

Rationale for Proposed Amendments to Method 310, Section 3.6

The SCAQMD does not provide an LVP-VOC exemption for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products in Rule 1143. In the Consumer Products

Regulation we are proposing to add consistent requirements to those in Rule 1143 for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD. Therefore, the language proposed for addition to 3.6 would explicitly state that no determination of LVP-VOC status would be conducted for these products because there is no LVP-VOC exemption.

Proposed changes to section 3.6.1 would clarify the versions of ASTM test methods that would be used. Deleting the reference to Appendix B would streamline the regulation because another proposal would repeal Appendix B. The proposal in 3.6.2 to reduce the percentage from 5 to 1 percent to determine the percentage of a mixture that has an initial boiling point above 216° C would provide better accuracy of the LVP-VOC content. Deletion of section 3.6.3 would streamline and clarify the method because this section references procedures that are no longer used.

Summary of Proposed Amendments to Method 310, Section 4

Section 4 of Method 310 specifies the procedure for determining final VOC content. We are proposing to add that effective January 1, 2015, for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD, the final VOC content will be reported as grams of VOC per liter of material (g/L). Section 4.2.4 is proposed for addition to set forth the procedure for determining g/L of material for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products sold, supplied, offered for sale, or manufactured for use in the SCAQMD.

Section 4.2.3 sets forth the equation for calculating total grams of VOC per sheet for “Fabric Softener – Single Use Dryer Products.” We are proposing a modification of the equation in section 4.2.3 to incorporate the inclusion of water content and exempt compound content.

Other nonsubstantive language modifications are proposed.

Rationale for Proposed Amendments to Method 310, Section 4

The Consumer Products Regulation sets forth VOC standards in the format of ‘percent by weight.’ Therefore, in Method 310 section 4 specifies that final VOC content will be reported as “percent by weight VOC.” Because we are proposing to incorporate consistent requirements with those in Rule 1143 for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products in SCAQMD, it would be necessary to specify that VOC content for such products would be reported as g/L of material.

The existing equation in Section 4.2.3 does not account for water content or any exempt compounds which may be present in a “Fabric Softener Single-Use Product.” Our original analysis conducted to establish the test procedure did not indicate any of these compounds were present. The change would be necessary to accurately determine

VOC content because we are now aware that some products have been formulated to contain water and/or various exempt compounds.

Proposed new subsection 4.2.4 would set forth the equation for calculating final VOC content for nonaerosol “Multi-purpose Solvent” and “Paint Thinner” products in SCAQMD. The equation would not account for any LVP-VOC content because there is no LVP-VOC exemption for these products in the SCAQMD. However, to be consistent with compounds that SCAQMD has determined to be nonvolatile the equation would specifically exclude any amount of methyl esters with 17 or more carbon atoms before final VOC content would be determined. To coincide with when the standards for these products become effective in the Consumer Products Regulation, the equation would become, effective January 1, 2015.

Other nonsubstantive language modifications would provide consistency.

Summary of Proposed Amendments to Method 310, Section 5

Section 5 of Method 310 specifies the procedure for determining the percent by weight of ROC contained in aerosol coating products, for the purposes of determining compliance with the Aerosol Coating Products Regulation. Minor nonsubstantive changes are proposed to a number of subsections in section 5 to incorporate the acronym “ROC” and “reactivity,” and to add the term “Products” to the “Aerosol Coatings Regulation” name. Staff is also proposing to update the reference to the test method in the Aerosol Coating Regulation [section 94526(b)(1)]. We are also proposing in section 5.1 that Responsible Parties would have 25 (rather than 10) working days to supply data when requested.

Section 5.3 lists various analytical methods that are used to determine ROC content of aerosol coatings. We are proposing modification of subsection 5.3.5 to specify that there would be direct determination of ROCs and that modified ASTM D 5443-04 is among the methods that can be used for the direct determination of ROCs. Test methods for determining metal content, specular gloss, and acid content would be added as new sections 5.36, 5.37, and 5.38, respectively.

Rationale for Proposed Amendments to Method 310, Section 5

The proposed nonsubstantive modifications to various subsections would add consistency within the method. The proposed modification to subsection 5.1 to increase the number of working days to 25 to supply data would be necessary to correspond to a similar change in the Aerosol Coating Product Regulation. The proposed modifications to subsection 5.3.5 would allow for a more complete analysis to determine ROC content of aerosol coatings. Addition of ASTM D 5443-04 would allow for the direct determination of aromatic hydrocarbon compounds containing 6 through C10+ carbons and for aliphatic hydrocarbon compounds containing 5 through 10 carbons. These changes would also be reflected in corresponding existing Method 310 Standard Operating Procedures (SOPs) and the addition of new SOPs. Adding test methods for

determining Metal Content, Specular Gloss, and Acid Content in new sections 5.36, 5.37, and 5.38, respectively, would be necessary to determine compliance with various requirements for aerosol coatings.

Summary of Proposed Amendments to Method 310, Appendix A

Appendix A sets forth procedures for collecting propellant from aerosol product samples. Staff is proposing to modify footnotes in the appendix to refer to SOP SAS05 rather than specify where needed equipment can be obtained. Other nonsubstantive language changes are proposed.

Rationale for Proposed Amendments to Method 310, Appendix A

Updating the footnotes in Appendix A would clarify that the SOP SAS05 that is followed during the collection of propellant includes information as to where various equipment is obtained. Other nonsubstantive changes provide consistency within the method.

Summary of Proposed Amendments to Method 310, Appendix B

Staff is proposing to repeal entire Appendix B to Method 310.

Rationale for Proposed Amendments to Method 310, Appendix B

Appendix B describes a modified procedure for determination of vapor pressure and decomposition temperature of liquids using an isoteniscope. This procedure is no longer used by ARB staff and should be deleted. Deletion of Appendix B would streamline Method 310.

IX. Public Process for Development of Proposed Amendments

This chapter contains a description of the public process used to develop the proposed amendments. The APA (Government Code section 11340 *et seq.*) requires that development of regulations must allow for public input.

Our process for development of these proposed amendments included a number of formal and informal opportunities for public participation. Consumer product manufacturers, chemical producers, marketers, trade associations, and various other stakeholders listed below, have actively participated in the process.

- American Coatings Association
- Consumer Specialty Products Association
- National Aerosol Association
- Personal Care Products Council

Representatives from local air districts and agencies, including the SCAQMD, and the U.S. EPA were also involved in the process.

The public process to develop the proposed amendments for aerosol adhesives and aerosol coating categories began in January 2011, with release of the 2010 Consumer & Commercial Products Survey Update for Aerosol Coating and Adhesive Products (2010 Survey). The data for the 2010 Survey provided detailed information on sales and product formulations which allows for calculation of emissions. The data also served as a basis for evaluating potential limits and reformulation strategies to ensure that the maximum feasible emission reductions are achieved.

Staff released for comment survey data summaries on September 2, 2011, that included data on products as well as a summary of ROCs reported in each of the categories. On February 2, 2012, staff released additional data on sales and emissions. Comments on the data summaries were received by September 23, 2011, and February 20, 2012, respectively. Staff considered the comments provided by stakeholders in response to the data summaries and made revisions to the data as appropriate.

In order to further involve the public, staff held public workshops on September 12, 2012, February 26, 2013, and April 24, 2013, to discuss the amendments proposed in this rulemaking. The information discussed at the workshops was posted on our consumer products program webpage, and stakeholders were

notified *via* a list server announcement. At the workshops, staff discussed proposed amendments to the Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, repeal of the Hairspray Program Regulation, reorganization of the Tables of MIR Values, changes to Method 310, and the rulemaking schedule.

The workshop notices were distributed *via* the consumer products electronic list server, which has over 2,800 subscribers. The list server is used to provide subscribers pertinent information about the consumer products program.

In addition to workshops, staff held discussions with individual stakeholders and associations representing manufacturers and distributors of consumer products. Staff also participated in two technical seminars conducted by the aerosol coating industry in our Sacramento office on January 31, 2013, and February 16, 2013, respectively. These seminars provided an opportunity for staff to gather technical information regarding the opportunities and challenges facing the industry in reformulating products.

Staff made some modifications to the proposals after consideration and evaluation of comments provided in response to the workshops and meetings with stakeholders.

Staff also conducted a technical assessment to evaluate the technical feasibility of the 25 percent by weight VOC limit for “Multi-purpose Lubricants.” This limit is scheduled to become effective on December 31, 2013.

Additionally, staff conducted a technical assessment for “Multi-purpose Solvent” and “Paint Thinner” products. The technical assessments were designed to evaluate the technical feasibility of the VOC limits. The 3 percent by weight VOC limit for these categories is to become effective on December 31, 2013. Data summaries from this technical assessment were shared at a public workshop on April 24, 2013.

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